



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

The Halar® Coated Concentrate Control Valve (CCV) is utilized in Viking foam systems as a positive shut-off valve for the foam concentrate supplied either from a bladder tank or a foam pump. The CCV valve opens automatically when there is a water flow in the sprinkler system riser and allows foam concentrate to flow to the proportioning device.

A. Standard Foam Deluge, Foam Preaction, and Foam Flow Control Systems

(Refer to Figure 8 on foam data page 61g.)

The CCV valve can be either an angle style or straight through Halar® coated deluge or flow control valve. The priming connection can be part of the riser control valve trim, (conventional deluge trim or conventional flow control trim). When the priming connection to the CCV is located on the primary riser valve trim, the priming supply connection to the CCV is located prior to the release module trim. The actual supply inlet to the CCV may be located in the cover of the deluge or flow control valve (1/2" pipe plugs installed in the cover of the deluge valve or flow control valve may be removed and piping from the deluge valve or flow control valve cover can be installed to the priming chamber of the CCV) or an outlet can be created prior to the release device (solenoid or pneumatic actuator) on the valve trim. When the deluge valve or flow control valve activate, the priming water in the riser valve and the CCV are released simultaneously allowing both valves to open. Priming water pressure will be drained through the main riser valve trim. The valves will remain open until the system is reset. Refer to specific design data pages for re-setting instructions.

B. Wet Foam, Low Flow Wet Foam, Low Flow Preaction Foam Systems, Pressure Regulating Deluge Systems

(Refer to Figure 6 or 7 as appropriate on foam data page 61f.)

The CCV valve can be either an angle style or straight through Halar® coated deluge or flow control valve. Where the CCV is used in conjunction with a wet foam system, a low flow wet foam system, or low flow pre-action system, a separate primary priming connection is required. The separate priming connection will consist of a 1/2" ball valve, 1/2" "Y" strainer, 1/8" restricted orifice, 1/2" spring loaded check valve, and Pressure Operated Relief Valve (PORV). The priming water supply to the CCV is taken upstream of the riser control valve. The priming supply feeds through the 1/2" ball valve, 1/2" "Y" strainer, 1/8" restricted orifice, 1/2" spring loaded check valve, PORV, to the priming chamber of the CCV. The sensing side of the PORV is connected to the alarm connection of the riser control valve. When water flow is present through the sprinkler riser, water flows from the alarm connection to the sensing side of the PORV, the PORV opens, draining the priming chamber of the CCV allowing it to open. Foam concentrate will discharge from the CCV to the proportioning device until water pressure is removed from the sensing side of the PORV. Note that the PORV 1/2" drain will drain water when the system is activated. The PORV 1/2" drain must be piped to an open drain.

C. Pressure Regulating Flow Control Foam Systems – Electric release

(Refer to Figure 9 on foam data page 61g.)

Pressure regulating flow control systems are utilized when there is a desire to control the discharge flow rate or discharge pressure in a foam system and the capability for a remote shut-down of the system is required. In this application, a Halar coated flow control valve will be utilized as the CCV. The CCV priming connection cannot be piped in series with the riser flow control valve. The CCV priming connection will consist of a 1/2" ball valve, 1/2" "Y" strainer, 1/8" restricted orifice, and a 1/2" spring loaded check valve. A release device, (solenoid valve) will be required in the priming supply to release and drain the priming water located in the priming chamber of the CCV. When the release system activates, the CCV solenoid valve will open and drain the priming water supply from the CCV priming chamber, when the release system is re-set or power is interrupted to the CCV solenoid valve (as in a "Dead Man Abort"), the solenoid valve will close allowing priming pressure to restore in the priming chamber of the CCV, which will close the CCV and cease the flow of foam concentrate to the proportioning device.

2. LISTINGS AND APPROVALS

Refer to individual component technical data page.

3. TECHNICAL DATA

Specifications:

Refer to individual component technical data page.



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Material Standards:

Refer to individual component technical data page.

Ordering Information:

Refer to Figures 1 through 6 for part numbers.

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

Refer to specific technical data sheets, acceptable installation standards, codes and Authority Having Jurisdiction for additional installation, operation and maintenance instructions.

5. OPERATION

Refer to individual component technical data page.

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.

Inspections: It is imperative that the system is inspected and tested on a regular basis. Refer to NFPA 25 for the standard 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.

7. AVAILABILITY

The Priming Connection and Trims are available through a network of domestic and international distributors. See the Viking Corporation 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.



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HALAR® COATED CONCENTRATE CONTROL VALVES													TRIM KIT PART NUMBERS	
Valve Style	Valve Model	Deluge Part No.	Valve Model	Flow Control Part No.	Valve Size Nominal	Inlet Type	Outlet Type	Pipe O.D. Actual	Flange Drilling	Friction Loss*	Cv Factor	Shipping Weight	Galvanized & Brass	Brass only
Angle	E-2	08361Q/B	H-2	08365Q/B	2" (DN50)	Threaded NPT	Threaded NPT	2-3/8" 60.3 mm	--	13 ft. (3.9 m)	93	35 lbs. (15.8 kg)	08099	09695
Straight Through	F-2	12127Q/B	J-2	12131Q/B	1-1/2" (DN40)	Grooved	Grooved	1-29/32" 48.3 mm	--	7 ft. (2.1 m)	66	36 lbs. (16.3 kg)	12848-1	12848-2
	F-2	12058Q/B	J-2	12062Q/B	2" (DN50)	Grooved	Grooved	2-3/8" 60.3 mm	--	13 ft. (3.9 m)	93	36.5 (16.5 kg)	12848-1	12848-2
	F-2	12404Q/B	J-2	12408Q/B	2-1/2" (DN65)	Grooved	Grooved	4-1/2" 114.3 mm	--	12 ft. (3.6 m)	155	66 lbs. (30 kg.)	12929-1	12929-2
	F-2	12015Q/B	J-2	12017Q/B	3" (DN80)	Flanged	Flanged	4-1/2" 114.3 mm	ANSI B16.42 Class 150	33 ft. (10 m)	228	81 lbs. (36.7 kg.)		
	F-2	12019Q/B	J-2	12021Q/B	3" (DN80)	Flanged	Grooved	4-1/2" 114.3 mm	ANSI B16.42 Class 150	33 ft. (10 m)	228	73 lbs. (33.1 kg.)		

* Expressed in equivalent length of pipe based on Hazen & Williams Formula C=120.

Table 1

Note: When viewing this data page online, [blue text](#) represents hyperlinks and will open the appropriate data page when clicked.

NOTES

- NOTE 1:** The 1/2" water supply priming line must be taken from below the main water supply control valve. Please refer to the proper design data page figure for the piping arrangement which pertains to your particular installation.
- NOTE 2:** Deluge/flow control valve, trim pipe and fittings are to be galvanized for priming with water. Use brass trim for priming with either foam water solution or AFFF foam concentrate only. Do not prime valve with ARC Concentrate. All foam concentrate wetted trim components are Brass or Stainless Steel.
- NOTE 3:** Plug deluge or flow control valve outlets as indicated on this trim chart.
- NOTE 4:** Dimensions in parentheses are millimeters.
- NOTE 5:** Locate 1/2" union on priming line where shown to facilitate servicing of valve clapper.
- NOTE 6:** All AFFF, ARC or AFFF/ARC foam concentrate control valves to be Halar® coated. This valve and trim is suitable for use with all AFFF, ARC and AFFF/ARC foam concentrate.
- NOTE 7:** Purchase applicable trim kit and appropriate Halar® coated deluge valve for use as concentrate control valve.
- NOTE 8:** Maximum operating pressure of Model E-2 and F-2 Concentrate Control Valves is 250 PSI (17 Bar), VDS Approved at 12 Bar maximum.

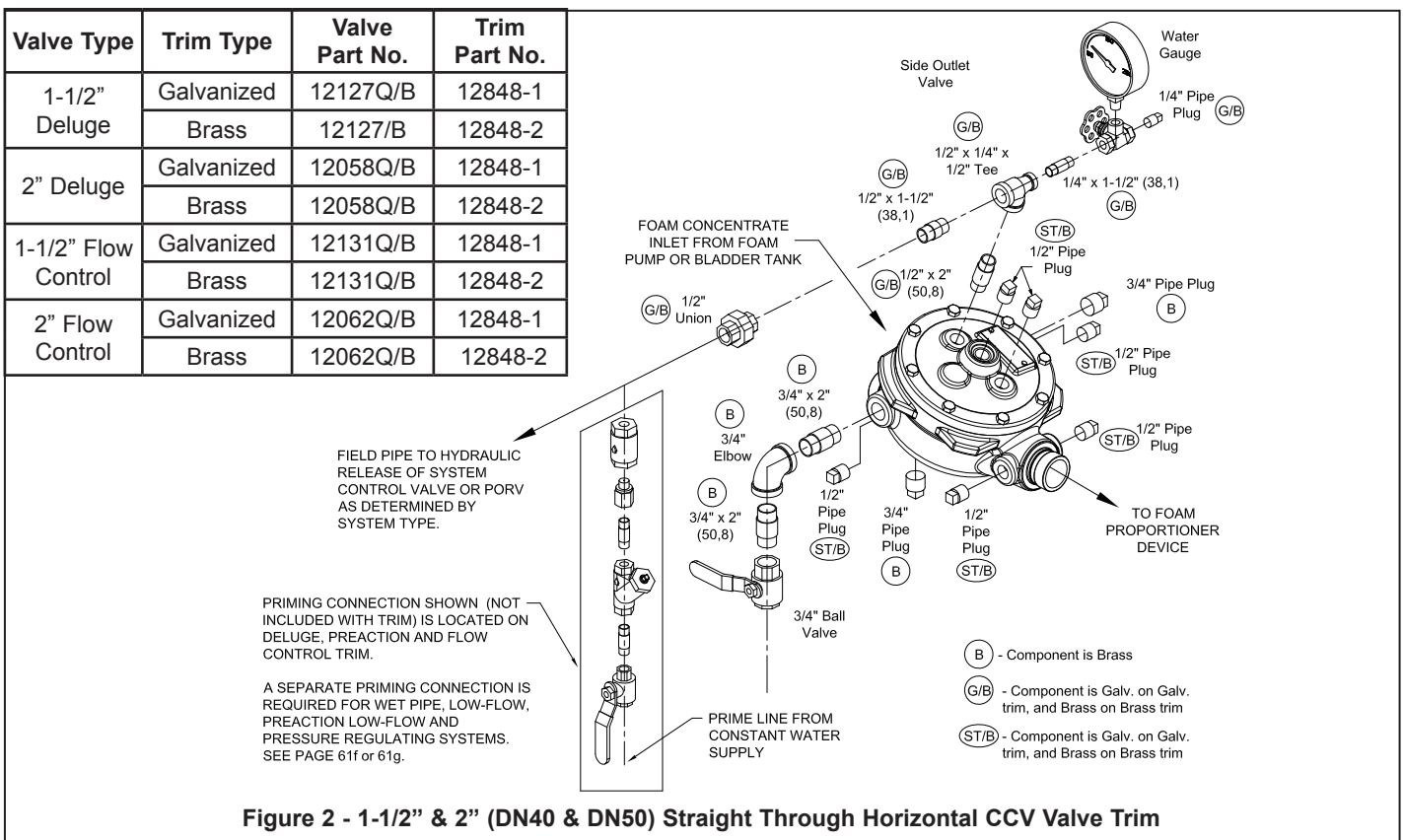
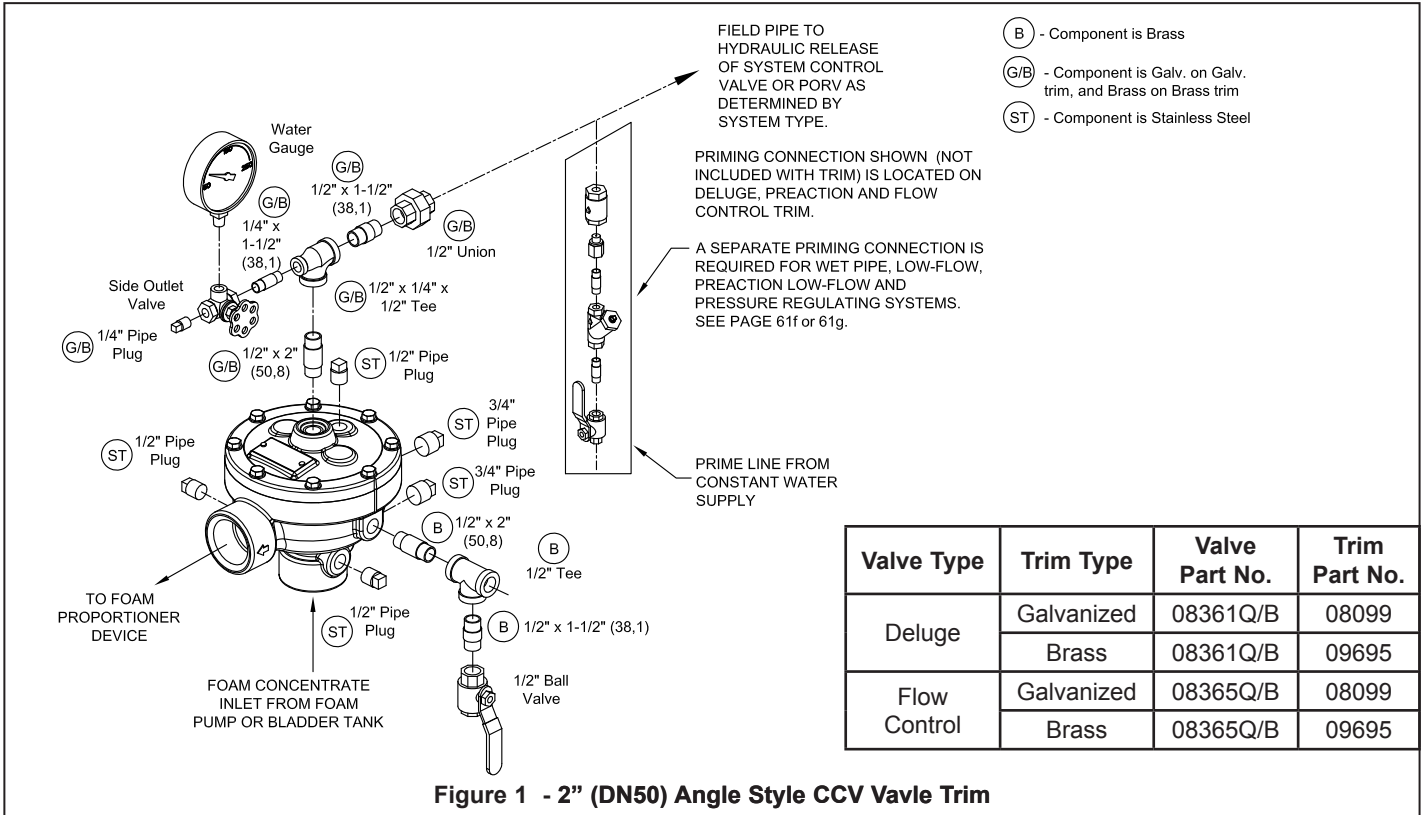


TECHNICAL DATA

CONCENTRATE CONTROL VALVE APPLICATIONS, PRIMING CONNECTIONS AND TRIMS

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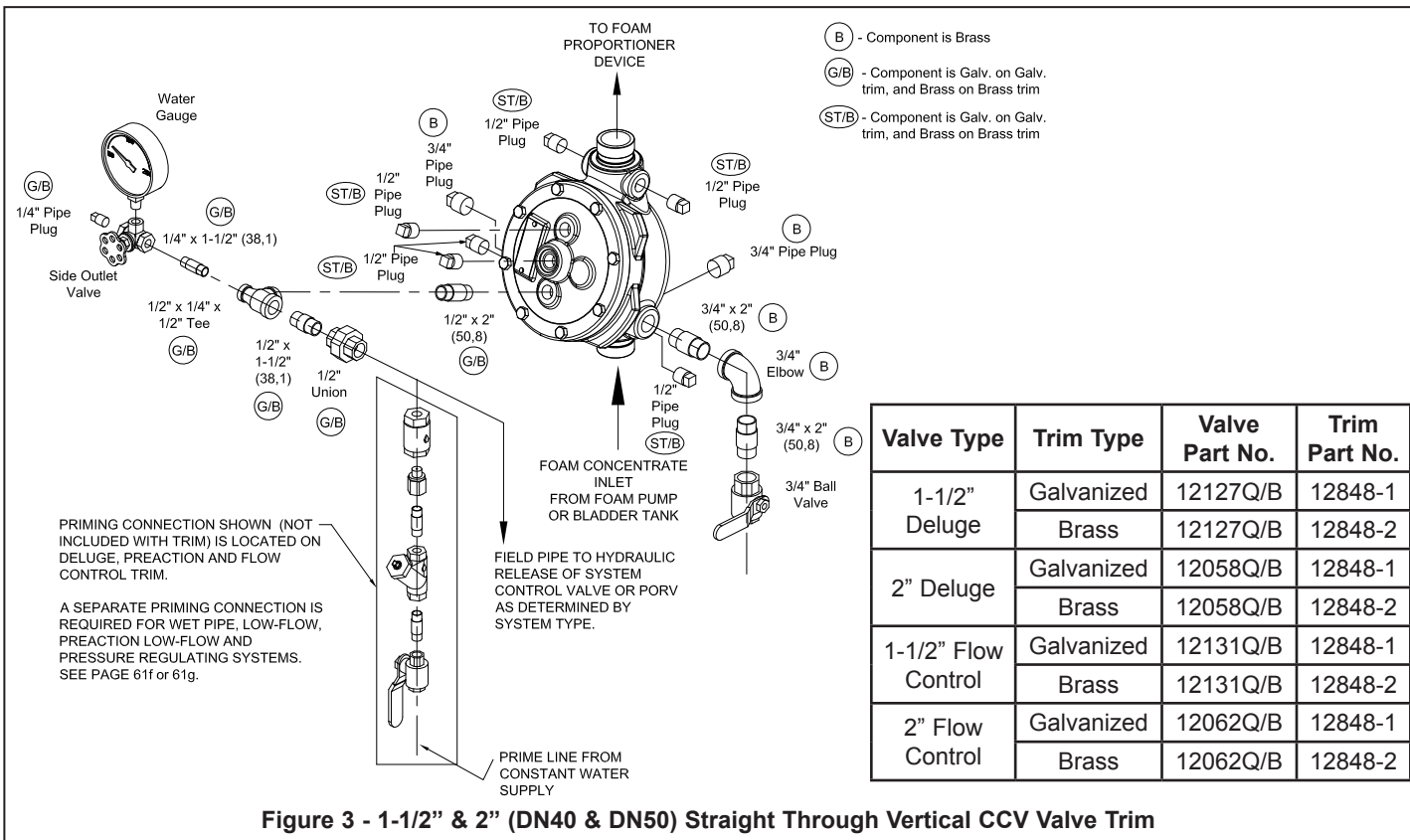


Figure 3 - 1-1/2" & 2" (DN40 & DN50) Straight Through Vertical CCV Valve Trim

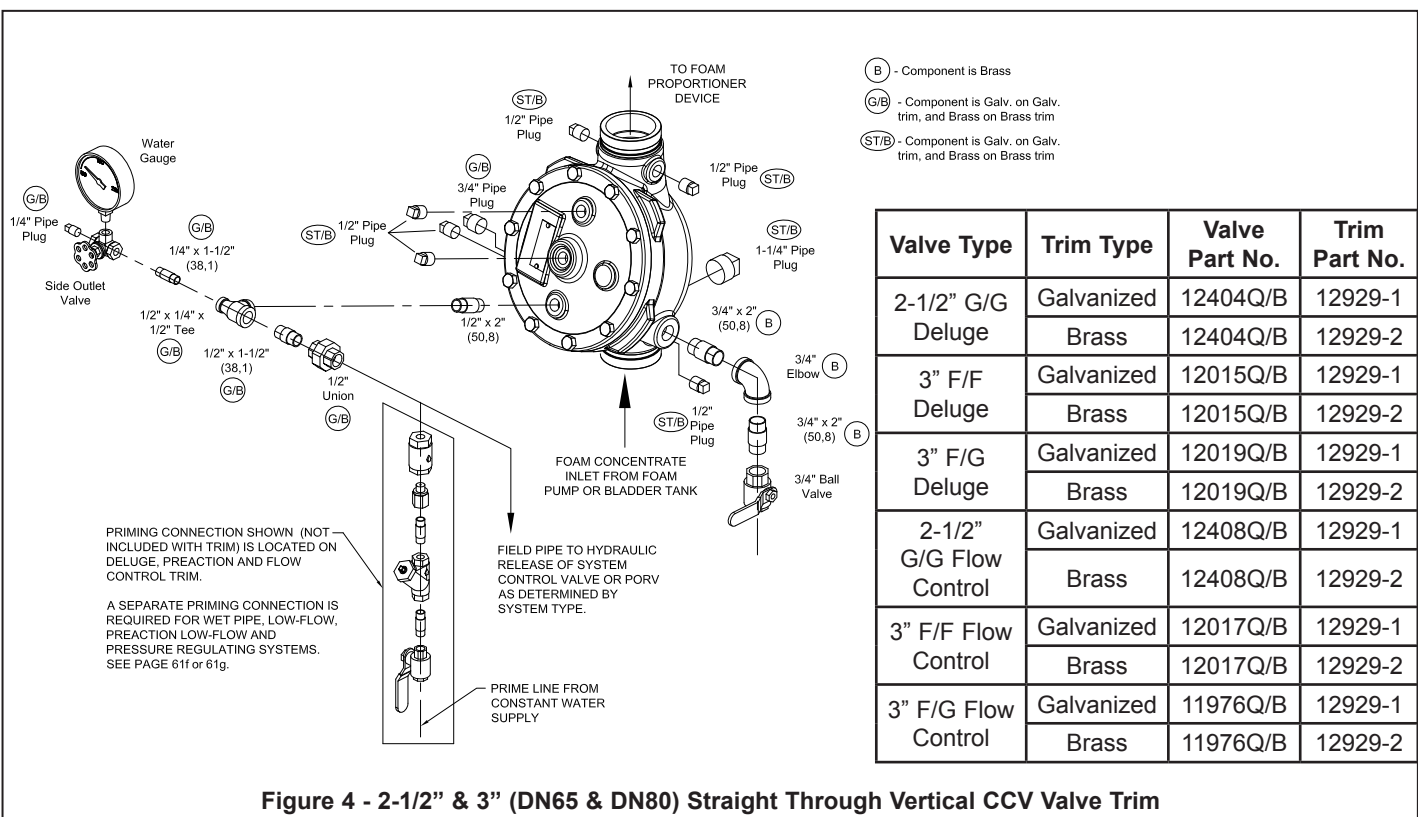


Figure 4 - 2-1/2" & 3" (DN65 & DN80) Straight Through Vertical CCV Valve Trim



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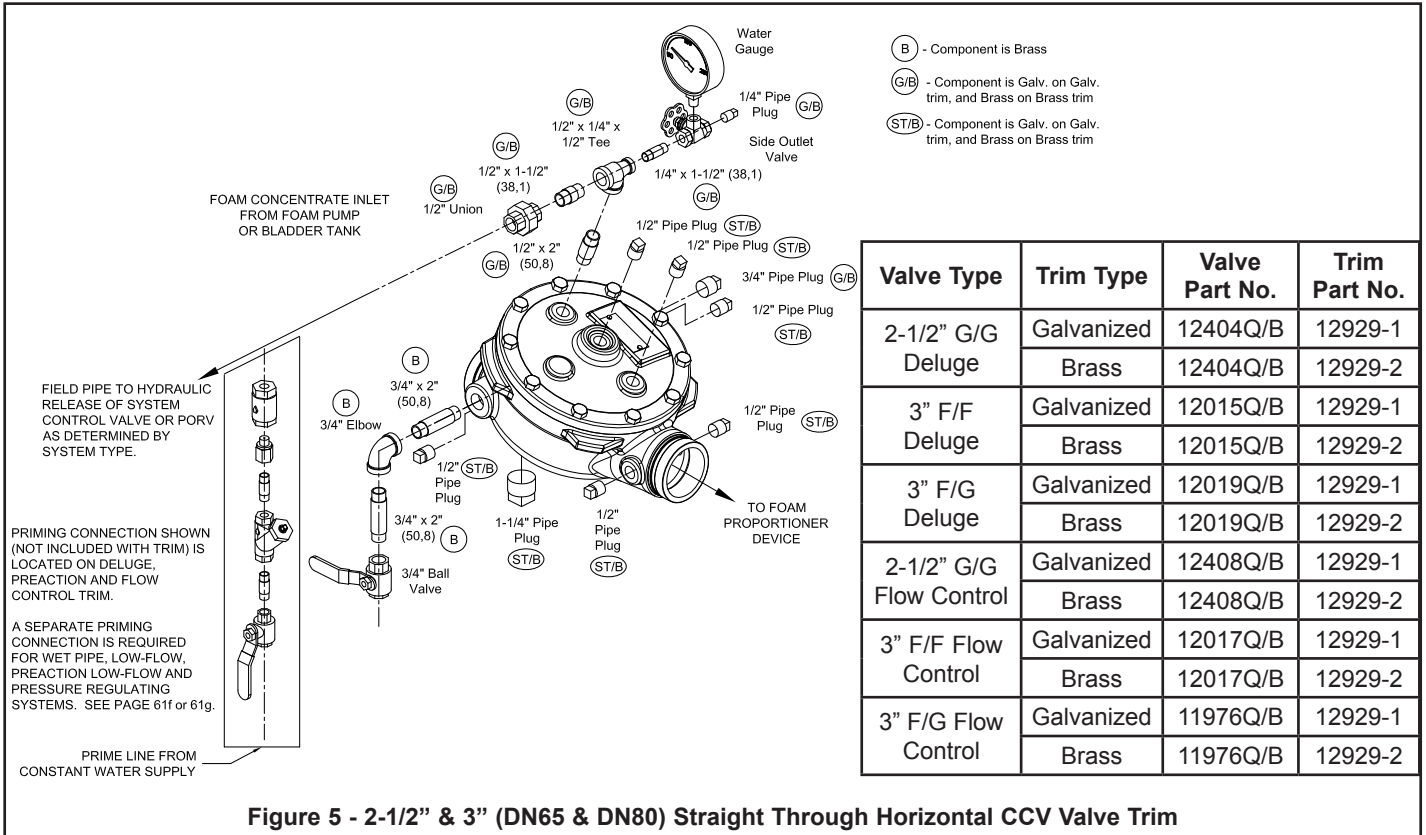


Figure 5 - 2-1/2" & 3" (DN65 & DN80) Straight Through Horizontal CCV Valve Trim

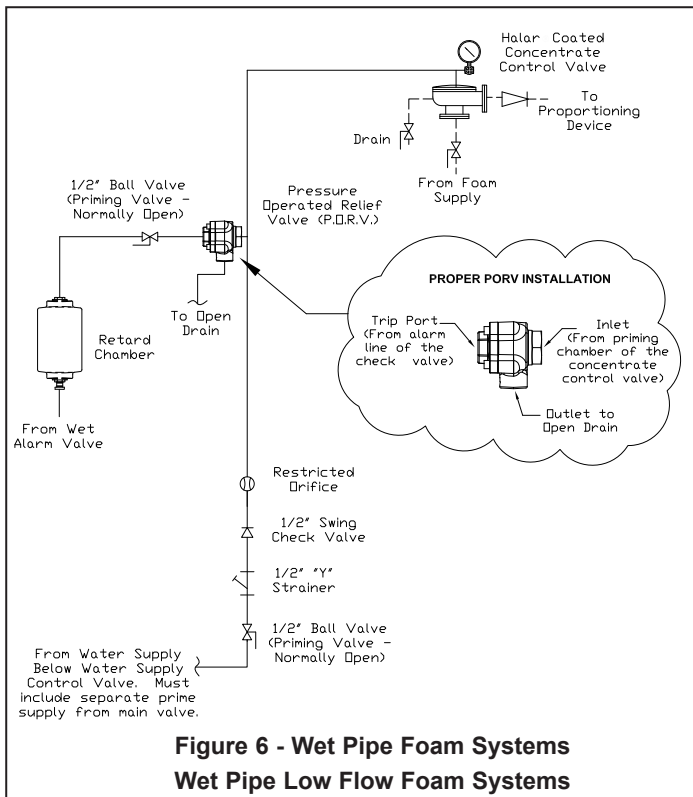


Figure 6 - Wet Pipe Foam Systems
Wet Pipe Low Flow Foam Systems

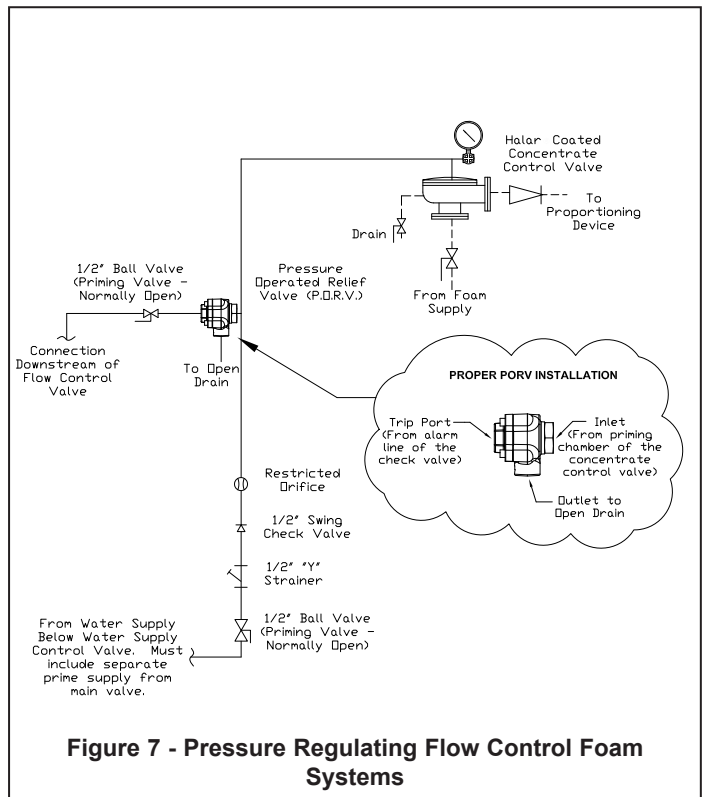
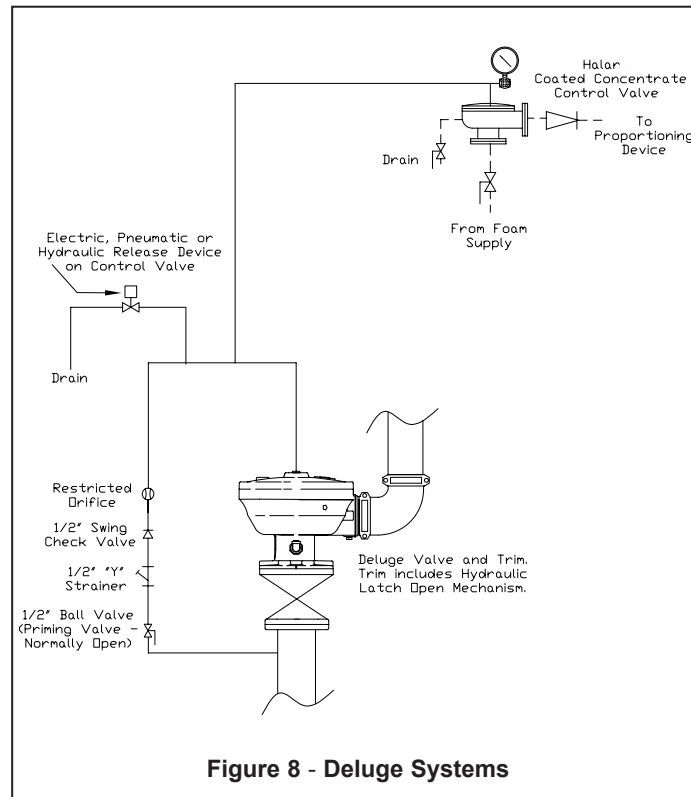


Figure 7 - Pressure Regulating Flow Control Foam Systems

	<h1>TECHNICAL DATA</h1>	<h2>CONCENTRATE CONTROL VALVE APPLICATIONS, PRIMING CONNECTIONS AND TRIMS</h2>
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NOTES (for Figures 6-9)

- All trim to foam concentrate valve is field piped.
- Refer to Foam Technical Data Page 3M-8a-d in the *Foam Systems Engineering Design Data* book for piping material requirements.
- Concentrate Control Valve Priming Connection Package (Viking P/N 10985) includes 1/8" Restricted Orifice, Model D-3 PORV, Soft Seat Check Valve, Ball Valve and "Y" Strainer. Field piping to CCV Valve and System Riser is required.

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