



TECHNICAL DATA

CONCENTRATE CONTROL VALVE APPLICATIONS, PRIMING CONNECTIONS, AND TRIMS

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

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1. GENERAL 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 (See Figure 5)

The CCV valve is a 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. The 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 design data pages for re-setting instructions.

B. Wet Foam, Low Flow Wet Foam, Low Flow Preaction Foam Systems, Pressure Regulating Deluge Systems (See Figure 3)

The CCV valve is a 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 which drains the priming chamber 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 (See Figure 4)

Pressure regulating foam systems, either flow control or deluge, are utilized when there is a desire to control the discharge flow rate or discharge pressure in a foam system. When the remote shut-down capability of the system is desired, pressure regulating flow control trim is the required trim for the flow control valve. When pressure regulating trim is utilized, the Halar® Coated Concentrate Control Valve (CCV) cannot have a common priming supply as the riser flow control valve. The CCV priming connection will consist of a Pressure Operated Relief Valve (PORV), 1/2" ball valve, 1/2" "Y" strainer, 1/8" restricted orifice, and a 1/2" spring loaded check valve. The priming water supply to the CCV is taken upstream of the riser control valve. Priming water feeds through the priming connection to the priming chamber of the CCV. Actuation of the detection system will release the priming water pressure in the flow control valve's priming chamber allowing the flow control valve to open. While water flows through the flow control valve, water will flow out a 1/2" (15 mm) port on the discharge side of the flow control valve and pressurize the sensing end of the Pressure Operated Relief Valve (PORV), which will release the prime pressure of the Halar® Coated Concentrate Control Valve, allowing it to open and supply foam concentrate to the proportioning device. The CCV will remain open until water pressure is removed from the sensing side of the PORV. The PORV 1/2" drain must be piped to an open drain. When power is interrupted to the solenoid valve on the riser flow control valve (as in a Stop Button/Abort Switch), the solenoid valve will close, allowing priming pressure to restore in the priming chamber of the riser flow control valve, stopping the flow of water through the system. After water pressure is removed from the sensing side of the PORV, the PORV will close allowing water pressure to building the CCV priming chamber, closing the CCV.

2. LISTINGS AND APPROVALS

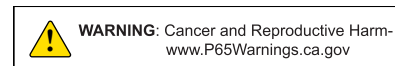
UL Listed - Deluge Valve EX2006

FM Approved - FM5130, 1020

VdS

LPCB

Refer to the individual technical data sheets for the components within the system.





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3. TECHNICAL DATA

3.1 Specifications:

Refer to individual component technical data pages for PORV, Pressure Switch, Solenoid Valve, and Deluge Valves.

3.2 Material Standards:

Refer to individual component technical data page.

3.3 Ordering Information:

Table 3.3.1: Ordering Information

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
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	2-7/8" 73 mm	ANSI B16.42 Class 150	33 ft. (10 m)	228	81 lbs. (36.7 kg.)		
	F-2	12730Q/B	J-2	12732Q/B	3" (DN80)	Grooved	Grooved	3" 76 mm	--	12 ft. (3.6 m)	155	66 lbs. (30 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.

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 which 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 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

Please contact Viking for further information.

The product is available directly from Viking and official distributors only.

EMEA: Viking SA, ZI Haneboesch, L-4562 Differdange / Niederkorn, Tel.: +352 58 37 37 - 1, Fax: +352 38 37 36, vikinglux@viking-emea.com

Americas: The Viking Corporation, 210 N. Industrial Park Drive, Hastings, Michigan 49058, Toll free phone: (800) 968-9501

APAC: The Viking Corporation (Far East) Pte. Ltd., 69 Tuas View Square, Westlink Techpark, Singapore 637621
Tel: (+65) 6 278 4061, Fax: (+65) 6 278 4609, Email: vikingsingapore@vikingcorp.com

8. GUARANTEE

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

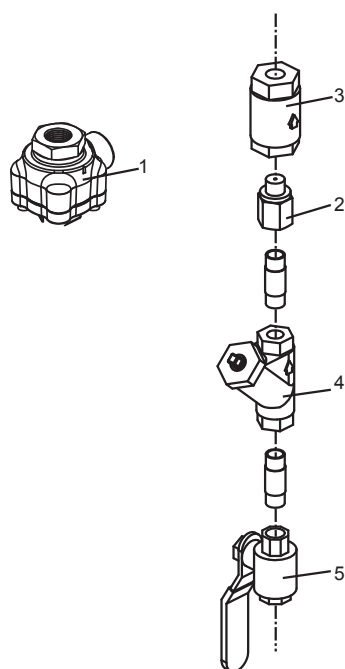


Table 2: Priming Line Connection Package (PN 10985) Components

REF.	SIZE (INCH)	DESCRIPTION
1	1/2	Pressure Operated Relief Valve (PORV)
2	1/8	Restricted Orifice
3	1/2	Swing Check Valve
4	1/2	Y-Strainer
5	1/2	Ball Valve

Figure 1 - Priming Connection Package Components

NOTE: All components shown here are included with the Priming Connection Package (PN 10985)



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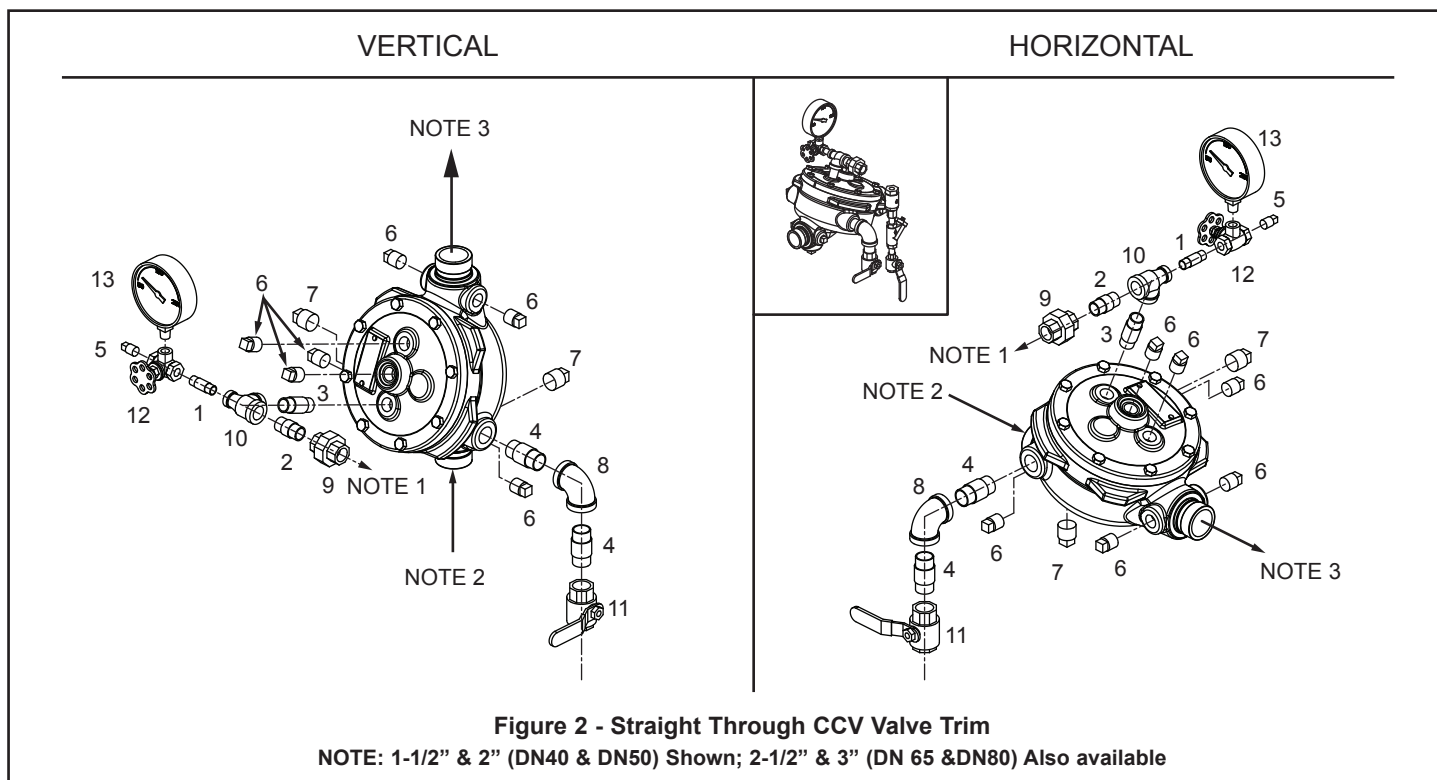


Table 1: CCV and Trim Components and Material Identification

REF.	SIZE (INCH)	DESCRIPTION	MATERIAL	
			G = Galvanized, B = Brass, ST = Stainless steel	
			On Galvanized Trim	On Brass Trim
1	1/4 X 1-1/2	NIPPLE	G	B
2	1/2 X 1-1/2	NIPPLE	G	B
3	1/2 X 2	NIPPLE	G	B
4	3/4 X 2	NIPPLE	B	B
5	1/4	PLUG	G	B
6	1/2	1/2 PLUG	ST	B
7	3/4	3/4 PLUG	B	B
8	3/4	3/4 ELBOW	B	B
9	1/2	1/2 UNION	G	B
10	1/2 X 1/4 X 1/2	TEE	G	B
11	3/4	SHUTOFF VALVE	-	-
12	1/4	SIDE OUTLET VALVE	-	-
13	1/4-	WATER GAUGE	-	-

Note 1: Field pipe to hydraulic release of system control valve or PORV as determined by system type.

Note 2: Foam concentrate inlet from foam pump or bladder tank.

Note 3: To foam proportioner device.



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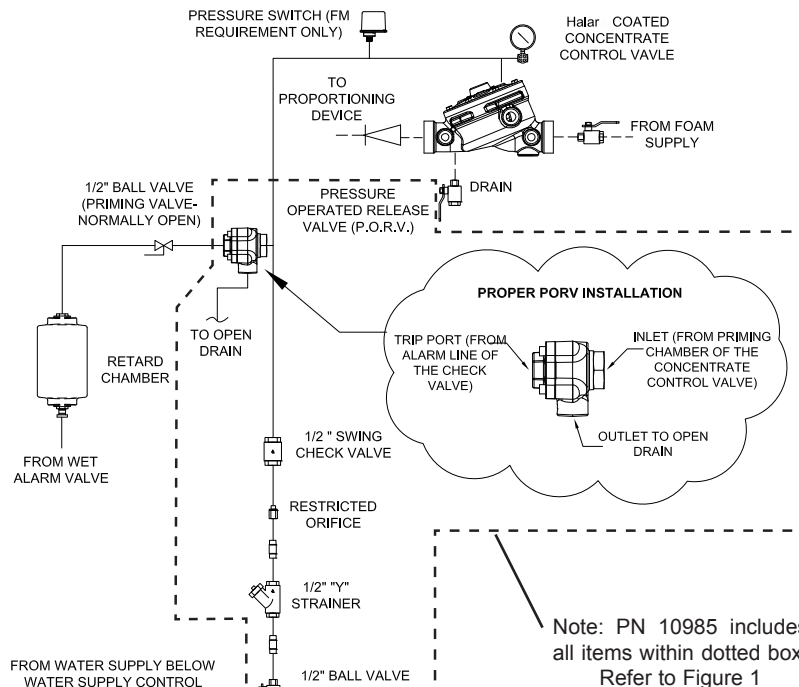


Figure 3 - Wet Pipe Foam Systems and Wet Pipe Low Flow Foam Systems

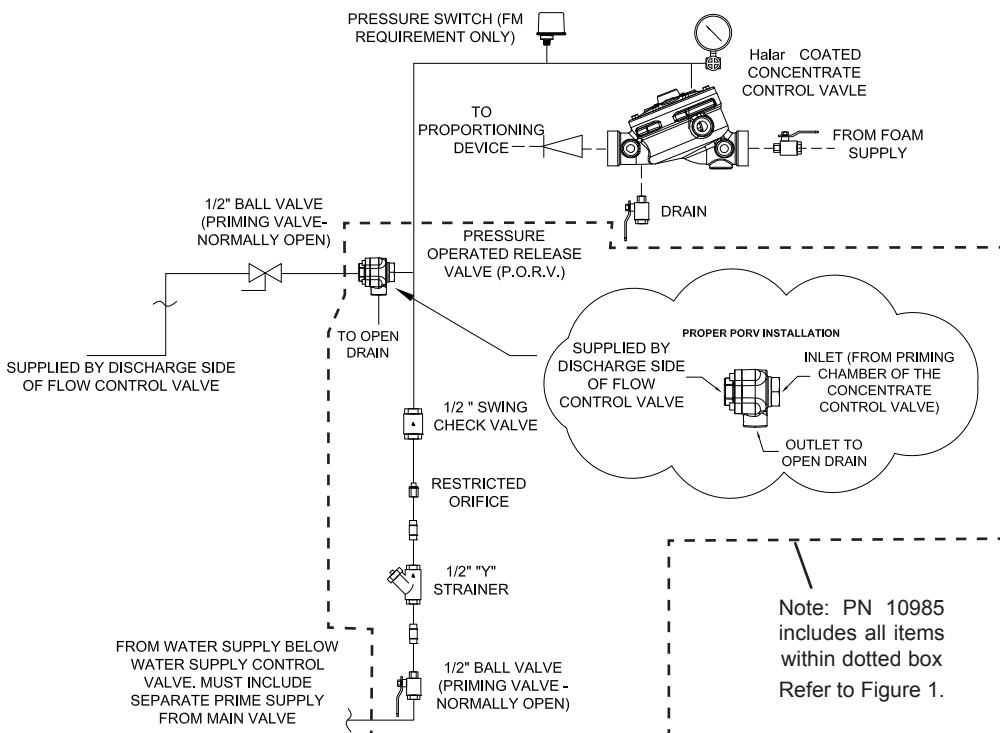


Figure 4 - Pressure Regulating Flow Control Foam Systems



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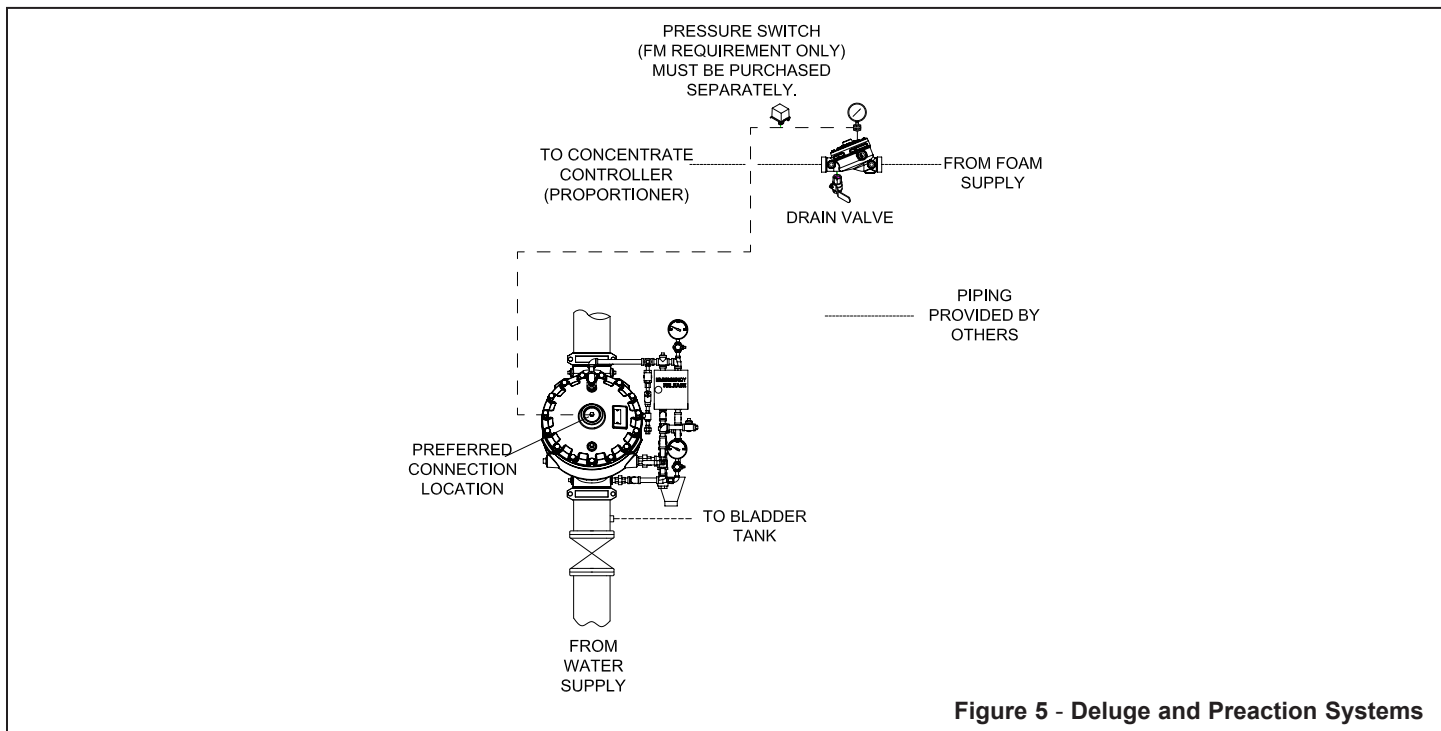


Figure 5 - Deluge and Preaction Systems