



TECHNICAL DATA

RATIO FLOW CONTROLLERS FOR BLADDER TANKS AND BALANCE PRESSURE MODEL CPC

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 Chemguard Model CPC 2.5, 3, 4, 6 & 8 ratio flow controllers are designed to meter the correct amount of Chemguard foam concentrate into the water stream over a wide range of flows and pressures with minimal pressure loss. These devices are used in conjunction with either a bladder tank or a foam pump proportioning system. Chemguard ratio flow controllers are UL Listed and FM Approved with certain Chemguard foam concentrates. Typical applications include flammable liquid storage tanks, loading racks, aircraft hangars, and heliports or anywhere flammable liquids are used, stored, processed or transported.



2. LISTINGS AND APPROVALS

UL Listed
FM Approved

3. TECHNICAL DATA

Specifications:

See Table 1.

Material Standards:

Body - ASTM UNS-C84400 Brass
Inlet Nozzle - SAE #72 Brass
Metering Orifice - SAE #72 Brass
Inlet Nozzle Set Screws - Stainless Steel
Metering Orifice Retaining Ring - Stainless Steel

Ordering Information:

See Table 10

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

To ensure correct operation of a ratio flow controller when used with a bladder tank, the pressure of the foam concentrate at the controller must be within 2 psi of the incoming water pressure.

To ensure accurate proportioning over the flow range of the controller, minimum water inlet pressure of 30 psi must be available during operation of the system.

Please review the controller dimension table for information on the minimum recommended length of straight pipe required upstream and downstream from the controller.

5. OPERATION

The operating principle of the controller is based upon the use of a modified venturi. As water passes through the inlet nozzle, pressure is reduced in the annular area of the nozzle. This reduction allows the metering of foam concentrate into the water stream through a foam concentrate metering orifice.

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 which 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.

7. AVAILABILITY

Viking Foam Products are available through a network of domestic and international distributors. See the Viking 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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Table 1: Specifications

Size	Foam Concentrate			Ratio Flow Controller							Listings & Approvals
	Foam Concentrate	Viking Part Number	Chemguard Model Number	Viking Part No.	Orifice Diameter		Min. Flow		Max. Flow		
					Inch	(mm)	gpm	(L/m)	gpm	(L/m)	
2-1/2" (65 mm) Threaded 1" NPT	1% AFFF	F14969	C103	F15001/A	0.140	3.6	45	170.3	380	1438.4	UL/FM
	3% AFFF	F14970	C303	F15001/B	0.252	6.4	34	128.7	440	1665.4	UL/FM
	3% AFFF MS	F14971	C301 MS	F15001/C	0.252	6.4	40	151.4	400	1514.0	UL
	3% / 6% AR-AFFF @ 3%	F14973	C363	F15001/D	0.252	6.4	117	442.9	249	942.6	UL/FM
	3% / 6% AR-AFFF @ 6%	F14973	C363	F15001/E	0.365	9.3	124	469.3	338	1279.3	UL/FM
	2% High Ex	F14974	C2	F15001/H	--	--	124	469.3	249	942.5	UL
	3% AR-AFFF	F14972	CUG	F15001/J	0.271	6.9	114	431.5	385	1457.4	UL/FM
3" (80 mm) Wafer 1-1/4" NPT	1% AFFF	F14969	C103	F15007/A	0.200	5.1	76	287.7	779	2948.8	UL/FM
	3% AFFF	F14970	C303	F15007/B	0.365	9.3	43	162.8	772	2922.0	UL/FM
	3% AFFF MS	F14971	C301 MS	F15007/C	0.365	9.3	33	124.9	772	2922.0	UL/FM
	3% / 6% AR-AFFF @ 3%	F14973	C363	F15007/D	0.365	9.3	194	734.3	753	2850.1	UL/FM
	3% / 6% AR-AFFF @ 6%	F14973	C363	F15007/E	0.495	12.6	196	741.9	755	2857.7	UL/FM
	2% High Ex	F14974	C2	F15007/H	--	--	165	624.5	779	2948.5	UL
	3% AR-AFFF	F14972	CUG	F15007/J	0.380	9.7	211	799	820	3103.7	UL/FM
4" (100 mm) Wafer 1-1/2" NPT	1% AFFF	F14969	C103	F15013/A	0.265	6.7	101	382.3	1482	5610	UL/FM
	3% AFFF	F14970	C303	F15013/B	0.485	12.3	22	83.3	1400	5299.0	UL/FM
	3% AFFF MS	F14971	C301 MS	F15013/C	0.485	12.3	53	200.6	1582	5988.5	UL/FM
	3% / 6% AR-AFFF @ 3%	F14973	C363	F15013/D	0.485	12.3	297	1124.1	1334	5049.2	UL/FM
	3% / 6% AR-AFFF @ 6%	F14973	C363	F15013/E	0.674	17.1	394	1491.3	1379	5219.5	UL/FM
	2% High Ex	F14974	C2	F15013/H	--	--	395	1495.1	1100	4163.5	UL
	3% AR-AFFF	F14972	CUG	F15013/J	0.506	12.9	410	1551.9	1500	5677.5	UL/FM
6" (150 mm) Wafer 2" NPT	1% AFFF	F14969	C103	F15019/A	0.385	9.8	147*	556.4	2851	10791.0	UL/FM*
	3% AFFF	F14970	C303	F15019/B	0.700	17.8	51	193	2842	10758.1	UL/FM
	3% AFFF MS	F14971	C301 MS	F15019/C	0.700	17.8	100	378.5	3238	12255.8	UL/FM
	3% / 6% AR-AFFF @ 3%	F14973	C363	F15019/D	.700	17.8	708	2680.1	2873	10875.5	UL/FM
	2% High Ex	F14974	C2	F15019/H	--	--	810	3065.8	2670	10106.0	UL
	3% AR-AFFF	F14972	CUG	F15019/J	0.785	19.9	681	2577.6	3188	12066.6	UL/FM
8" (200 mm) Wafer 2-1/2" NPT	1% AFFF	F14969	C103	F15026/A	0.525	13.3	313	1184.8	3228	12219.3	UL/FM
	3% AFFF	F14970	C303	F15026/B	0.975	24.8	88	333.1	3899	14757.7	UL/FM
	3% AFFF MS	F14971	C301 MS	F15026/C	0.975	24.8	149	563	3943	14924.3	UL/FM
	3% AR-AFFF	F14972	CUG	F15026/J	1.12	28.4	1159	5750	3284	12431.3	UL/FM

*FM = 147 (556.4) minimum to 2851 (10791) maximum flow.

UL = 203 (768) minimum to 2775 (10503) maximum flow.

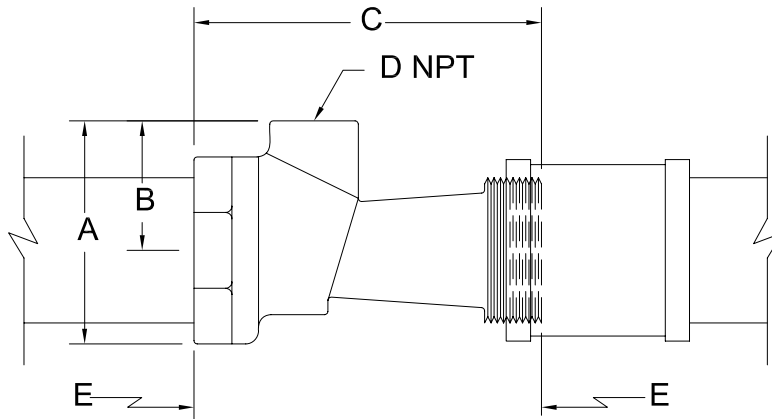


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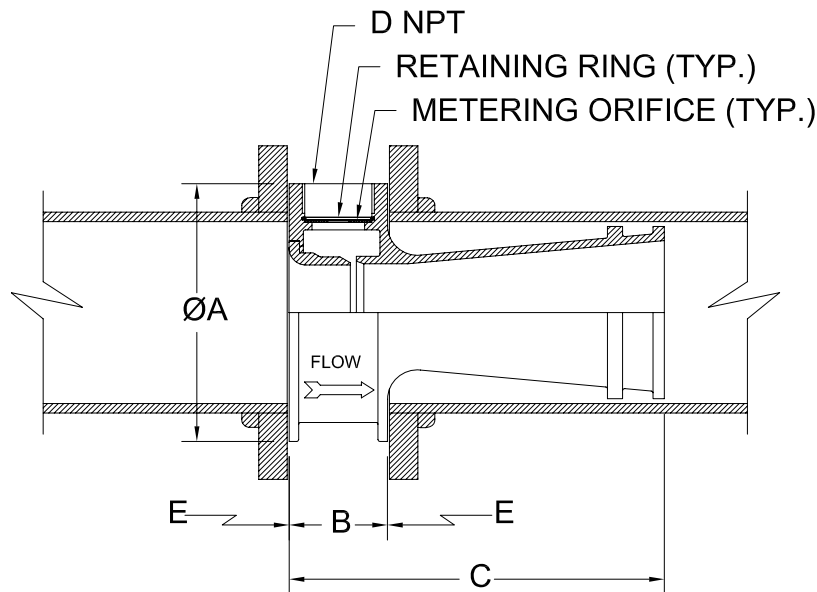
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2.5" Controller



3" - 8" Controllers

Size	A	B	C	D	E*	Weight
2-1/2"	4.3" (10.9 cm)	2.4" (6.10 cm)	6.9" (17.5 cm)	1" NPT	12" (31.0 cm)	8 lb. (3.6 kg)
3"	5.3" (13.5 cm)	2.5" (6.35 cm)	6.3" (16.0 cm)	1-1/4" NPT	15" (39 cm)	12 lb. (5.4 kg)
4"	6.8" (17.3 cm)	2.75" (6.99 cm)	8.0" (20.3 cm)	1-1/2" NPT	20" (51 cm)	22 lb. (10.0 kg)
6"	8.5" (21.6 cm)	3.25" (8.26 cm)	12.4" (31.5 cm)	2" NPT	30" (77 cm)	38 lb. (17.2 kg)
8"	10.9" (27.7 cm)	3.55" (9.02 cm)	12.4" (31.5 cm)	2-1/2" NPT	40" (102 cm)	73 lb. (33.1 kg)

* Straight pipe length required upstream and downstream



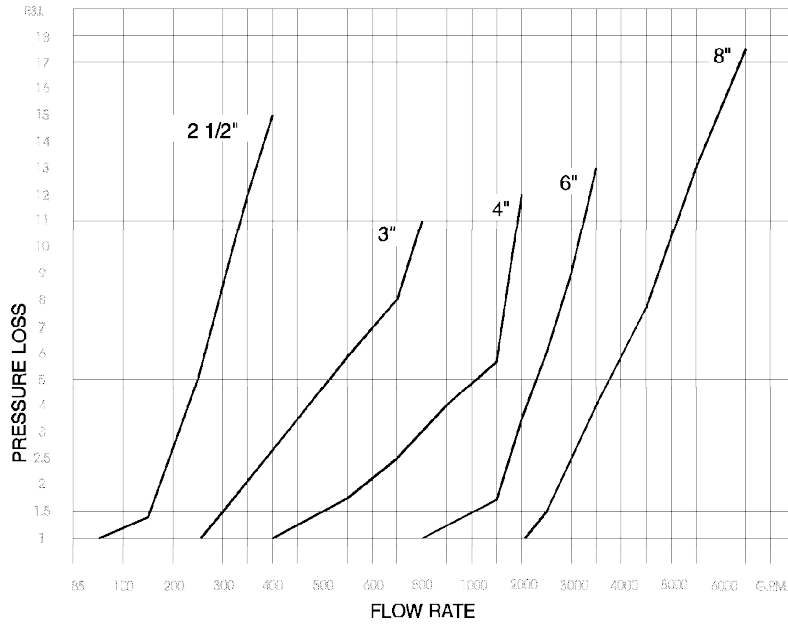
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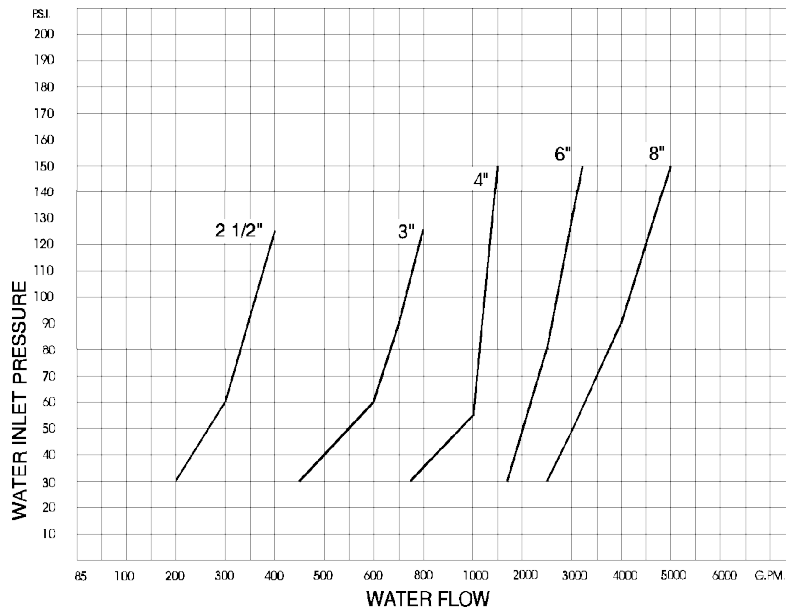
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FLOW AND FRICTION LOSS CHARACTERISTICS



**Friction
Loss Curves**



**Minimum Inlet
Pressure Versus Flow**

RFC2v1199