

Between Flange Proportioners (3, 4, 6, and 8 in.)

Application

CHEMGUARD proportioners are specifically designed to accurately proportion and control the mixing of pressurized CHEMGUARD foam concentrates into a water stream with minimum pressure loss. CHEMGUARD proportioners are UL Listed and FM Approved with various CHEMGUARD foam concentrates, and are used in conjunction with bladder tanks and pump proportioning skids. Typical applications include flammable liquid storage tanks, loading racks, aircraft hangars, heliports, and anywhere flammable liquids are used, stored, processed, or transported.

Description

Each CHEMGUARD proportioner consists of a body, inlet nozzle, and metering orifice, all of which are corrosion-resistant brass.

The proportioner body design includes four sizes to fit between a 3 in., 4 in., 6 in., or 8 in. pipe flange. Clearly marked on the proportioner body is the flow direction arrow, as well as the type and percentage of the designated concentrate.

The inlet nozzle is secured by a stainless steel retaining ring that is internally concealed to prevent removal after installation.

The metering orifice is sized according to the type and percentage of concentrate used and is also secured with a stainless steel retaining ring.



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Specifications

The proportioner body and inlet nozzle shall be of low zinc (less than 15%) brass. The nozzle and foam orifice retaining rings shall be of stainless steel.

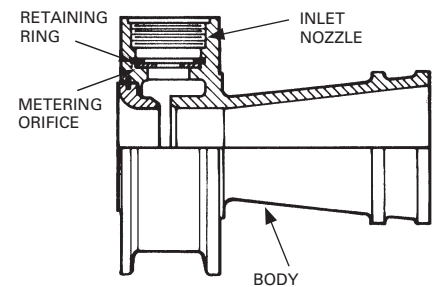
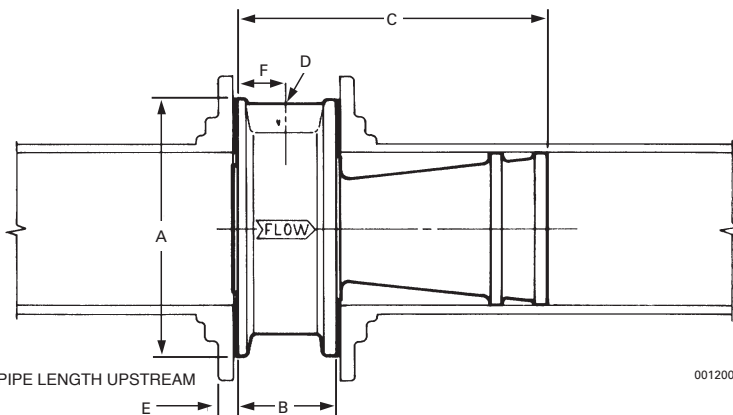
The proportioner body shall be designed so that it fits between two ANSI 150 lb pipe flanges. Only the recovery section of the proportioner shall protrude into the system water piping. To capture and seal against the flange gaskets, the mating face shall be machined with 32 grooves per inch (25 mm) for the 4, 6, and 8 in. models, and 64 grooves per inch (25 mm) for the 3 in. model. The body shall be clearly marked with a flow direction arrow, and the type and percent of foam concentrate that it was designed to proportion.

The convergent inlet nozzle shall have a rounded inlet and a smooth machined finish to ensure minimum stream constriction and maximum velocity. It shall be retained by an internally concealed retaining ring that prevents removal after installation.

The foam concentrate metering orifice shall be machined to the proper diameter for the agent. It shall rest on a machined surface to prevent leakage and shall be secured by a removable stainless steel retaining ring.

Proportioner Dimension Table

Proportioner Size	Dimensions					
	A in. (mm)	B in. (mm)	C in. (mm)	D in.	E in. (mm)	F in. (mm)
3 in.	5.3 (135)	2.50 (64)	6 (152)	1 1/4 NPT	15 (380)	1.19 (30)
4 in.	6.8 (173)	2.54 (65)	8 (203)	1 1/2 NPT	20 (510)	1.27 (32)
6 in.	8.6 (218)	3.25 (83)	12 (305)	2 NPT	30 (760)	1.63 (41)
8 in.	11.0 (279)	3.56 (90)	12 (305)	2 1/2 NPT	40 (1,200)	1.78 (45)



Ordering Information

Concentrate	Proportioner Part No.			
	3 in.	4 in.	6 in.	8 in.
1% AFFF (C1B)	702300*	702309*	702318*	702327*
3% AFFF (C3B)	702301**	702310**	702319**	702328**
3% AFFF (C306-MS)	702340*	702341*	702342*	702343*
3% AFFF (Low Temperature)	702302	702311	702320	702329
3% AR-AFFF (C334-LV)	702796**	702797**	702798**	702799**
3% AR-AFFF (C364)	702303*	702312*	702321*	702330*
6% AFFF	702304*	702313*	702322*	702331*
6% AR-AFFF (C364)	702305*	702314*	702323*	702332*
3% Fluoroprotein Foam	702306	702315	702324	702333
2% High-Expansion C2	702307*	702316*	702325*	702334*

*UL Listed with Bladder Tanks

**UL Listed and FM Approved with Bladder Tanks

Proportioners are only FM Approved when used in conjunction with the specific foam concentrates and equipment shown in the Approval Guide (www.approvalguide.com).

Shipping Weight	Proportioner Size			
	3 in.	4 in.	6 in.	8 in.
	10 lb	20 lb	40 lb	70 lb
	(4.5 kg)	(9.1 kg)	(18.1 kg)	(31.8 kg)

Safety Data Sheet (SDS) available at www.chemguard.com

Note: The converted metric values in this document are for dimensional reference only and do not reflect an actual measurement.

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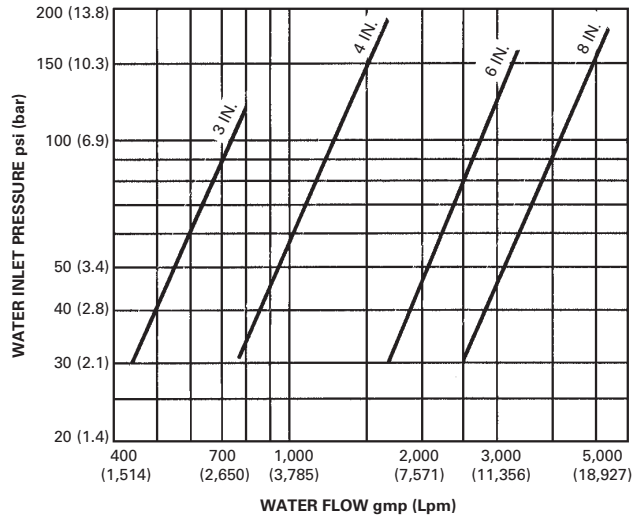
Nominal Flow Ranges

The following table lists the nominal flow range for each proportioner size. For flow ranges using specific concentrates, consult Johnson Controls Technical Services.

Proportioner Size	Nominal Flow Range	
	gpm	(Lpm)
3 in.	70 to 800	(265 to 3,028)
4 in.	200 to 1600	(757 to 6,057)
6 in.	300 to 3,400	(1,136 to 12,870)
8 in.	500 to 5,500	(1,892 to 20,819)

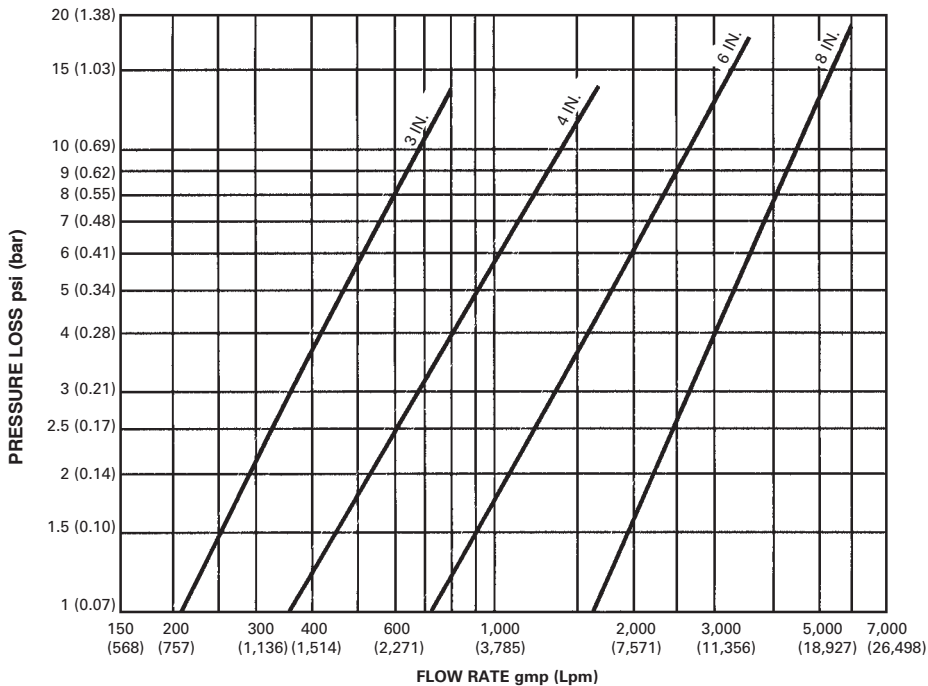
Note: Refer to UL Online Certification Directory or FM Approval Guide for concentrate-specific flow ranges.

Minimum Inlet Pressure Versus Water Flow



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Friction Loss Curves



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Note: Consult Johnson Controls Technical Services to determine proportioner size and maximum pipe run between foam tank and proportioner when using AR-AFFF Concentrate.