



Fixed Extinguishing Systems | Foam | **Foam Extinguishing Systems, Variable Viscosity Proportioners**

F+W Water Motor Driven Proportioners

Product Description

F+W Water Motor Driven Proportioners

For use with FM Approved concentrates and their FM Approved discharge devices.

Use of an FM Approved proportioning system with concentrates and discharge devices that are not FM Approved is outside the scope of the proportioning system's Approval.

Positive displacement, water motor-powered, self contained, preassembled proportioning systems. Available for horizontal and vertical mounting. Provide preassembled flushing and test piping. Fresh water and seawater versions are available.

Inlet connection type options include: Flanged per IS7005, GB/T9134, HG2592, EN1092, ASME B16.5 Class 150, JIS B2220, AS 2129. Grooved per AWWA C606, ISO6182-12, GB5135.11. Male or Female Threaded per ISO 228, GB/T7307, ANSI/ASME B1.20.1

Suitable for use with foam concentrates with viscosities within the limitations stated below.

Suitable for use in temperatures ranging from 39° to 122°F (4° to 50°C); 39° to 175°F (4° to 80°C) for high temperature "H" variants.

Requires atmospheric concentrate storage tank with suction line larger or at least equal to the nominal diameter of the proportioning pump inlet.

A 2-way ball valve is provided for flushing capability. A 3-way ball valve is provided for testing capability and may be set to recirculate concentrate through a foam return line rather than injecting into the water stream. The 2-way and 3-way ball valves may be manually operated (with position monitoring) or electrically operated. Electrical actuators are available in 380 VAC rated input voltage.

The units may be equipped with optional drain valves at the proportioning pump or the water motor to avoid damage from freezing. These valves also have the option to be electrically operated using the electrical actuators described above.

Available electromagnetic flow meters have been evaluated by FM Approvals and are considered part of FM Approved configurations for all proportioning systems listed below. The flow meters, installed on the foam return line, provide acceptable measurement of foam concentrate flow throughout the entire flow range as specified by the manufacturer.

Optional revolution counter flow measurement add-on may be used to provide a general estimate of the extinguishing water flow in the range of 25% to 100% of the maximum rated extinguishing water flow.

Systems shall be configured, installed, operated and maintained per the Vision Installation, Operation, & Maintenance Manual, doc # FW-M01. The English version of the manual has been reviewed and is part of the FM Approval. Versions of the manual produced in other languages are strictly for the convenience of the end user. Requirements in the English version shall take precedent over other language versions of the manual.

Variable Viscosity Proportioners

Proportioner Model	Min Flow Rate		Max Flow Rate		Nominal Water Line Size		Proportioning Ratio Percent
	gpm	(Lpm)	gpm	(Lpm)	in	(mm)	
X2-1	41	(160)	164	(620)	2	(50)	1
X2-3	47	(180)	154	(580)	2	(50)	3
X3-1	46	(170)	317	(1200)	3	(80)	1
X3-3	38	(140)	311	(1180)	3	(80)	3
X4-1	62	(230)	627	(2370)	4	(100)	1

Proportioner Model	Min Flow Rate		Max Flow Rate		Nominal Water Line Size		Proportioning Ratio Percent
	gpm	(Lpm)	gpm	(Lpm)	in	(mm)	
X4-3	50	(190)	612	(2320)	4	(100)	3
X6S-1	62	(230)	1083	(4100)	6	(150)	1
X6S-3	59	(220)	1039	(3930)	6	(150)	3
X6-1	65	(250)	1273	(4820)	6	(150)	1
X6-3	63	(240)	1237	(4680)	6	(150)	3
X8-1	118	(450)	1898	(7180)	8	(200)	1
X8-3	124	(470)	1856	(7030)	8	(200)	3
X8L-1	135	(510)	2193	(8300)	8	(200)	1
X8L-3	142	(540)	2180	(8250)	8	(200)	3
X10-1	117	(440)	2686	(10170)	10	(250)	1
X10-3	131	(500)	2620	(9920)	10	(250)	3
X12-1	174	(660)	3958	(14980)	12	(300)	1
X12-3	219	(830)	3919	(14840)	12	(300)	3
X14-1	249	(940)	5565	(21070)	14	(350)	1
X14-3	262	(990)	5680	(21500)	14	(350)	3
X16-1	302	(1140)	7177	(27170)	16	(400)	1
X16-3	498	(1890)	7001	(26500)	16	(400)	3
X2-1H	61	(230)	164	(620)	2	(50)	1
X2-3H	71	(270)	154	(580)	2	(50)	3
X3-1H	69	(260)	317	(1200)	3	(80)	1
X3-3H	57	(220)	311	(1180)	3	(80)	3
X4-1H	75	(280)	627	(2370)	4	(100)	1
X4-3H	75	(280)	612	(2320)	4	(100)	3
X6S-1H	93	(350)	1083	(4100)	6	(150)	1
X6S-3H	89	(340)	1039	(3930)	6	(150)	3
X6-1H	86	(330)	1273	(4820)	6	(150)	1
X6-3H	95	(360)	1237	(4680)	6	(150)	3
X8-1H	134	(510)	1898	(7180)	8	(200)	1
X8-3H	186	(700)	1856	(7030)	8	(200)	3
X8L-1H	203	(770)	2193	(8300)	8	(200)	1
X8L-3H	213	(810)	2180	(8250)	8	(200)	3
X10-1H	175	(660)	2686	(10170)	10	(250)	1
X10-3H	166	(630)	2620	(9920)	10	(250)	3
X12-1H	262	(990)	3958	(14980)	12	(300)	1
X12-3H	329	(1250)	3919	(14840)	12	(300)	3

FM Approvals

Proportioner Model	Min Flow Rate		Max Flow Rate		Nominal Water Line Size		Proportioning Ratio Percent
	gpm	(Lpm)	gpm	(Lpm)	in	(mm)	
X14-1H	374	(1420)	5565	(21070)	14	(350)	1
X14-3H	394	(1490)	5680	(21500)	14	(350)	3
X16-1H	453	(1710)	7177	(27170)	16	(400)	1
X16-3H	747	(2830)	7001	(26500)	16	(400)	3

Notes: Rated flows are water flow at inlet. "H" suffix denotes high-temperature version.

Viscosity Limitations

Suitable for use with Newtonian foam concentrates and for use with non-Newtonian foam concentrates having viscosity characteristics within (below) the maximum viscosity limitations provided in the viscosity vs. shear rate table shown below.

Shear Rate, (1/s)	Viscosity @ 68°F (20°C), (Cp)
5	5323
10	2821
20	1480
50	646
100	346
600	74

Details

Category	Foam Extinguishing Systems, Variable Viscosity Proportioners
Class of Work	5135 - Low Expansion Foam Systems
Approval Standard	FM 5130 - Foam Extinguishing Systems
Certification Type	FM Approved
Listing Country	China

Company

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