PP MK2 Foam Pump Proportioner

Description

Each proportioner consists of a cast bronze body, metering orifice, bronze pressure balancing valve, and pressure sensing tubing.

The proportioner is available in six standard sizes ranging from DN 50 to DN 250 with flows ranging from 125 Lpm to 37,850 Lpm (33 gpm to 10,000 gpm) and is designed to fit between two DIN PN16 (ANSI Class 150) pipe flanges. A minimum of five pipe diameters of straight pipe is necessary upstream and three pipe diameters downstream of the proportioner.

SKUM PP MK2 proportioning devices function by maintaining equal pressures in the foam concentrate and water inlets into the proportioner. This ability to balance allows the proportioner to be used over a wide range of flows and pressures. The system also responds quickly and accurately to changes in the water inlet pressures and flow rates.

Positive displacement foam pumps for non-Newtonian foam concentrates or centrifugal foam pumps for AFFF and HiEx foams, are used to pressurize foam concentrate within the supply manifold. The foam pressure shall be a minimum of 1 bar to 2 bar (14.5 psi to 29 psi) higher than the water pressure. Where required, a pressure control valve located in the return line to the foam concentrate storage tank, maintains a regulated pressure in the supply manifold at a minimum of 1 bar to 2 bar (14.5 psi to 29 psi) higher than the maximum pressure in the water supply line. Foam concentrate not required by the proportioner, then returns to the atmospheric storage tank through the pressure control valve.

Features

- Designed to meet the proportioning requirements of EN 13565-1 and NFPA 11
- FM Approved for use with SKUM AFFF 3% UG and SKUM ARC 3x3 UG Foam Concentrates
- Reduces the amount of system hardware and installation with minimal moving parts and no electrical components, as well as reduced maintenance compared to alternative solutions
- Manufactured using corrosion-resistant design and materials
- Wafer type water connection
- Flanged or screw threaded BSP foam connection

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Application

The proportioner is an in-line balanced proportioning device used with an atmospheric foam concentrate tank connected to a positive displacement foam concentrate pump. The system automatically proportions and controls the mixing of the foam concentrate into a water stream as long as the system flow and pressure are within the operating range of the unit. The recommended operating pressure range is between 4 bar and 16 bar (58 psi and 232 psi).

The PP MK2 Foam Pump Proportioner can be used with all foam systems.

Approvals and listings

The SKUM PP MK2 Proportioner is designed in accordance with EN 13565-1 and NFPA 11. The proportioner is approved, qualified under, or meets the requirements of the following specifications:

- FM Approvals – FM 5130
  - The SKUM PP MK2 Proportioner is FM Approved for use with SKUM AFFF 3% UG and SKUM ARC 3x3 UG
- Det Norske Veritas (DNV)
- China National Test Centre Approval (TFRI)
  - PP-100 and PP-150 models only
- Russian Maritime Register of Shipping (RMRS)

FM APPROVED

Note: SKUM PP MK2 proportioners are only FM Approved when used in conjunction with the specific foam concentrates and equipment shown in the Approval Guide available at www.ApprovalGuide.com.

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 | Form No. FDS-2017095-06

Ordering information

When ordering, specify the part number, size, and foam proportioning percentage.

Table 1: Ordering information

Part No.	Description	Foam agent	Approvals
123005118	PP-50, BSP	SKUM AFFF 3% UG	FM
123005125	PP-50, BSP	SKUM ARC 3X3 UG	FM
123005111	PP-50, BSP	1%-6%	–
123005111N	PP-50, BSP	NFF 3X3 UL201	–
123008115	PP-80, BSP	SKUM AFFF 3% UG	FM
123008122	PP-80, BSP	SKUM ARC 3X3 UG	FM
123008108	PP-80, BSP	1%-6%	–
123008108N	PP-80, BSP	NFF 3X3 UL201	–
123310109	PP-100, DIN/ANSI Flange	SKUM AFFF 3% UG	FM
123310116	PP-100, DIN/ANSI Flange	SKUM ARC 3X3 UG	FM
123310102A	PP-100, DIN/ANSI Flange	3% Fluoroprotein	–
123310102E	PP-100, DIN/ANSI Flange	2%	–
123310102B	PP-100, DIN/ANSI Flange	1%	–
123310102J	PP-100, DIN/ANSI Flange	6%	–
123310102N	PP-100, DIN/ANSI Flange	NFF 3X3 UL201	–
123315112	PP-150, DIN/ANSI Flange	SKUM AFFF 3% UG	FM
123315119	PP-150, DIN/ANSI Flange	SKUM ARC 3X3 UG	FM
123315105A	PP-150, DIN/ANSI Flange	3% Fluoroprotein	–
123315105E	PP-150, DIN/ANSI Flange	2%	–
123315105B	PP-150, DIN/ANSI Flange	1%	–
123315105J	PP-150, DIN/ANSI Flange	6%	–
123315105N	PP-150, DIN/ANSI Flange	NFF 3X3 UL201	–

Part No.	Description	Foam agent	Approvals
123320214	PP-200, DIN Flange	SKUM AFFF 3% UG	FM
123320221	PP-200, DIN Flange	SKUM ARC 3X3 UG	FM
123320103A	PP-200, DIN Flange	3% Fluoroprotein	–
123320103E	PP-200, DIN Flange	2%	–
123320103B	PP-200, DIN Flange	1%	–
123320103J	PP-200, DIN Flange	6%	–
123320103N	PP-200, DIN Flange	NFF 3X3 UL201	–
123320228	PP-200, ANSI Flange	SKUM AFFF 3% UG	FM
123320235	PP-200, ANSI Flange	SKUM ARC 3X3 UG	FM
123320207A	PP-200, ANSI Flange	3% Fluoroprotein	–
123320207E	PP-200, ANSI Flange	2%	–
123320207B	PP-200, ANSI Flange	1%	–
123320207J	PP-200, ANSI Flange	6%	–
123320207N	PP-200, ANSI Flange	NFF 3X3 UL201	–
123325104A	PP-250, DIN Flange	3%	–
123325104E	PP-250, DIN Flange	2%	–
123325104B	PP-250, DIN Flange	1%	–
123325104J	PP-250, DIN Flange	6%	–
123325206A	PP-250, ANSI Flange	3%	–
123325206E	PP-250, ANSI Flange	2%	–
123325206B	PP-250, ANSI Flange	1%	–
123325206J	PP-250, ANSI Flange	6%	–

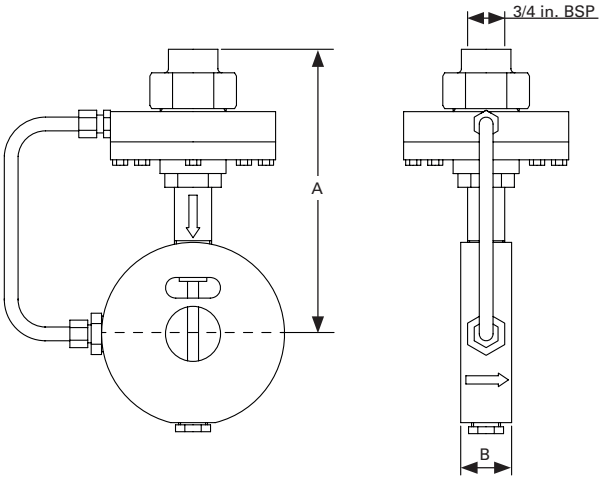
Proportioner information

Table 2: Proportioner information

Model	Connection*		A	B	Weight	Maximum working pressure
	Foam	Water	mm (in.)	mm (in.)	kg (lb)	bar (psi)
PP-50	3/4 in. BSP (Female)	DN 50 / 2 in. Flange	200 (7.9)	37 (1.5)	5 (11.0)	16 (232.1)
PP-80	3/4 in. BSP (Female)	DN 80 / 3 in. Flange	220 (8.7)	37 (1.5)	10 (22.0)	16 (232.1)
PP-100	DN 50 / 2 in. Flange	DN 100 / 4 in. Flange	312 (12.3)	62 (2.4)	18 (39.7)	16 (232.1)
PP-150	DN 50 / 2 in. Flange	DN 150 / 6 in. Flange	333 (13.1)	62 (2.4)	21 (46.3)	16 (232.1)
PP-200	DN 80 / 3 in. Flange	DN 200 / 8 in. Flange	411 (16.2)	82 (3.2)	43 (94.8)	16 (232.1)
PP-250	DN 80 / 3 in. Flange	DN 250 / 10 in. Flange	439 (17.3)	82 (3.2)	53 (116.8)	16 (232.1)

Note: *Flange connections to fit DIN PN16 or ANSI Class 150.

PP-50 / PP-80



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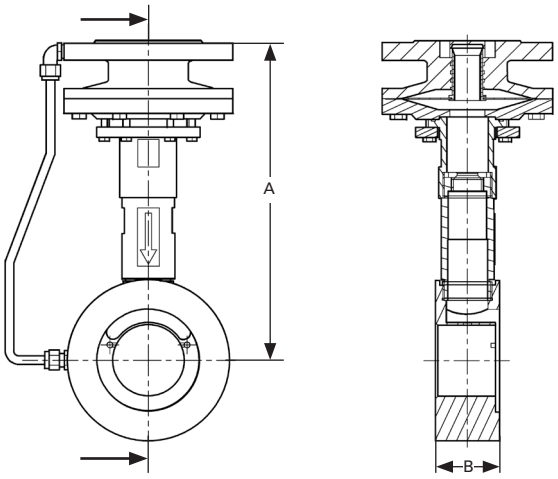
PP-100 / PP-150



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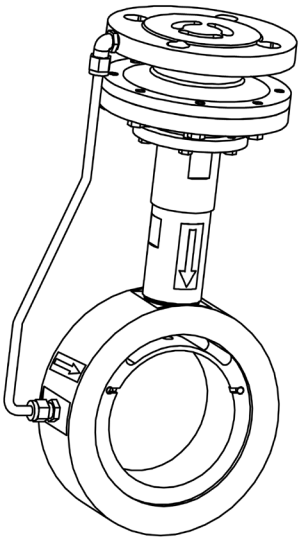
PP-200 / PP-250



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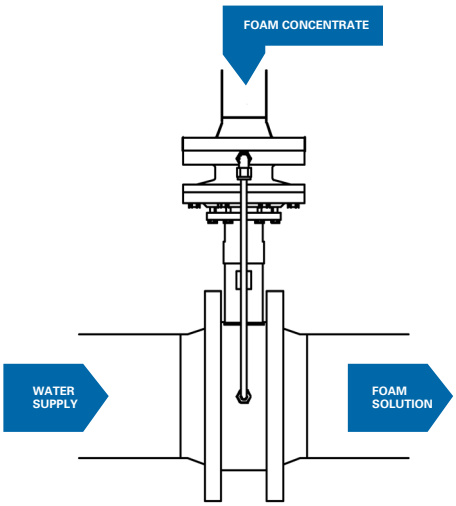

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System specifications

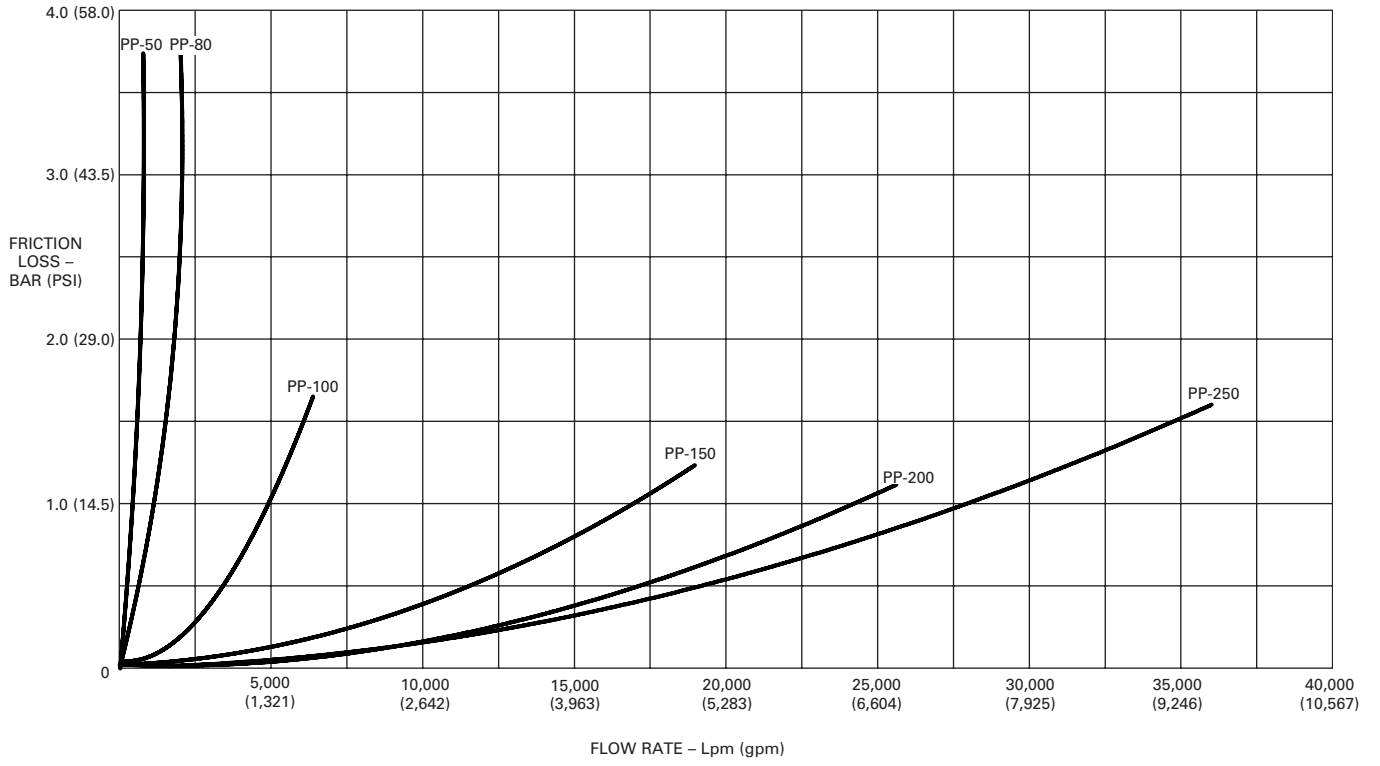
Table 3: System specifications

							FM Approved flow rates			
		Minimum capacity		Maximum capacity			SKUM AFFF 3% UG		SKUM ARC 3x3 UG	
Model	Foam agent	Lpm	(gpm)	Lpm	(gpm)	K-Factor	Lpm	(gpm)	Lpm	(gpm)
PP-50	1% to 6%	125	(33)	800	(211)	450	206 to 753	(54 to 199)	223 to 636	(59 to 168)
PP-80	1% to 6%	300	(79)	2,000	(528)	1,110	204 to 1,893	(54 to 500)	462 to 1,874	(122 to 495)
PP-100	1% to 6%	770	(203)	6,100	(1,612)	4,550	579 to 6,208	(153 to 1,640)	708 to 6,189	(187 to 1,635)
PP-150	1% to 6%	1,500	(396)	18,000	(4,755)	14,700	2,002 to 9,047	(529 to 2,390)	4,035 to 9,149	(1,066 to 2,417)
PP-200	1% to 6%	2,875	(760)	26,500	(7,000)	21,500	4,732 to 19,911	(1,250 to 5,260)	5,580 to 19,726	(1,474 to 5,211)
PP-250	1% to 6%	5,100	(1,347)	37,850	(10,000)	31,000	–	–	–	–

Table 4: UL201 system specifications

		Minimum capacity		Minimum capacity		
Model	Foam agent	Lpm	(gpm)	Lpm	(gpm)	K-Factor
PP-50	NFF 3x3 UL201	276	(73)	787	(208)	450
PP-80	NFF 3x3 UL201	628	(166)	2,104	(556)	1,110
PP-100	NFF 3x3 UL201	799	(211)	7,127	(1,883)	4,550
PP-150	NFF 3x3 UL201	3,263	(862)	12,536	(3,312)	14,700
PP-200	NFF 3x3 UL201	7,824	(2,067)	18,168	(4,800)	21,500

SKUM PP MK2 friction loss



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