

OEM NFPA 1901/1906 Foam Single-Point Injection Proportioner Test Procedure
2000 / 3000 Series Foam Systems (Metric)

- 1) Foam pump and water flowmeters must be calibrated per Installation and Operation Manual before testing (Concentrate viscosity must be within the foam proportioner manufactures limits)
- 2) Tools needed for the test are a pitot tube or other calibrated flowmeter to test the system water flow rates. A graduated bucket to collect and calibrate foam concentrate. A stop watch to measure volume unit/time of foam concentrate flow. A load valve to control system back pressure capable of maximum flow of the foam system pump. Appropriate pressure gauge to measure back pressure.

On larger systems, it may be practical to use a calibrated flowmeter instead of a graduated collection container and recirculate the foam concentrate.

- 3) System performance is dependent on flowmeter/pipe size. Identify applicable OEM test points based on size of flowmeter installed. Maximum water flow is determined by the flowmeter range or the maximum water pump output, whichever is less.
- 4) Water and foam concentrate can be tested separately on FoamPro 2000 and 3000 series systems as follows:
 - A) Test main waterway flowmeter at the three (3) test points shown on applicable OEM Certification test chart (If the water pump cannot reach the maximum flowmeter rate at 10.34 bar use maximum flow rate of the pump). Water flow rates displayed on the control head should be within 10% of pitot tube measurements.
 - B) Test the foam pump at three (3) test points shown on OEM Certification test chart.
 - 1) Turn the "Cal/Inject" valve to the Calibrate position (Foam system should be primed with no air in the lines).
 - 2) Attach pressure gauge and load valve to the "cal/inject" valve with a hose running to graduated bucket.
 - 3) Enter "Simulated Flow" mode and set the water flow rate to the value listed in the chart for the flowmeter size.
 - 4) Set the percent (%) concentrate to the corresponding value specified in the chart.
 - 5) Press the "ON" button to start the proportioner.
 - 6) Set the load valve back pressure to the corresponding value specified in the chart.
 - 7) Run the system for short period (Not less than 5 seconds electric driven, 20 seconds hydraulic) to assure prime and stabilization. Note the volume of concentrate in the bucket and start the stop watch.
 - 8) Run the system for several minutes. Note the volume in the bucket and time on the stop watch. (Note: Longer run time will increase measurement accuracy)
 - 9) Divide the volume change in the bucket (total concentrate pumped during the timed period) by the number of minutes on the stop watch. The result must match the corresponding Foam (LPM) listed in the chart within NFPA accuracy requirements. (Note: NFPA allows -0% to +40% for solutions of less than 1% and -0% to +30% for solutions greater than 1%; or 1 percentage point whichever is less)
 - 10) Repeat this process for remaining two (2) rows of the OEM Certification Test chart. All three scenarios must meet NFPA guidelines without re-calibrating.
- 5) If system has multiple concentrate tanks, repeat step B for each additional tank.



**NFPA 1901 / 1906
Model 2024
Foam System Certification
METRIC**

System
Certified

Certified Manufacturer Type Test

OEM Certification Test

1 1/2" Thread or 2" Victaulic W/1" Bore

Range	Water Flow (lpm)	Range	Back Press. BAR	Foam %	Range	Foam Cap. (lpm)
Min	19	Min	0.0	2.0%	Min	0.38
Max	416	Max	8.6	5.8%	Max	24.00
Min	19	Max	24.1	2.0%	Min	0.38
Max	416	Min	0.0	5.8%	Max	24.00
Mid	208	Mid	8.6	11.5%	Mid	24.00

Flowmeter		Foam Pump Test Points					
Range	Test Points (lpm)	Sim Water Flow (lpm)	Set Foam %	Range	Back Press. BAR	Range	Foam (lpm)
Mid	151	379	3.3%	Mid	24.1	Mid	12.5
Min	19	40	1.0%	Min	0.0	Min	0.4
Max	416	400	6.0%	Max	8.6	Max	24.0

1 1/2" Thread or 2" Victaulic

Range	Water Flow (lpm)	Range	Back Press. BAR	Foam %	Range	Foam Cap. (lpm)
Min	38	Min	0.0	1.0%	Min	0.38
Max	1211	Max	8.6	2.0%	Max	24.00
Min	38	Max	24.1	1.0%	Min	0.38
Max	1211	Min	0.0	2.0%	Max	24.00
Mid	587	Mid	8.6	4.1%	Mid	24.00

Flowmeter		Foam Pump Test Points					
Range	Test Points (lpm)	Sim Water Flow (lpm)	Set Foam %	Range	Back Press. BAR	Range	Foam (lpm)
Mid	341	379	3.3%	Mid	24.1	Mid	12.5
Min	38	40	1.0%	Min	0.0	Min	0.4
Max	1211	400	6.0%	Max	8.6	Max	24.0

2" Thread or 2 1/2" Victaulic

Range	Water Flow (lpm)	Range	Back Press. BAR	Foam %	Range	Foam Cap. (lpm)
Min	57	Min	0.0	0.7%	Min	0.38
Max	1968	Max	8.6	1.2%	Max	24.00
Min	57	Max	24.1	0.7%	Min	0.38
Max	1968	Min	0.0	1.2%	Max	24.00
Mid	984	Mid	8.6	2.4%	Mid	24.00

Flowmeter		Foam Pump Test Points					
Range	Test Points (lpm)	Sim Water Flow (lpm)	Set Foam %	Range	Back Press. BAR	Range	Foam (lpm)
Mid	606	379	3.3%	Mid	24.1	Mid	12.5
Min	57	40	1.0%	Min	0.0	Min	0.4
Max	1968	400	6.0%	Max	8.6	Max	24.0

2 1/2" Thread or 3" Victaulic

Range	Water Flow (lpm)	Range	Back Press. BAR	Foam %	Range	Foam Cap. (lpm)
Min	76	Min	0.0	0.5%	Min	0.38
Max	2839	Max	8.6	0.8%	Max	24.00
Min	76	Max	24.1	0.5%	Min	0.38
Max	2839	Min	0.0	0.8%	Max	24.00
Mid	1457	Mid	8.6	1.6%	Mid	24.00

Flowmeter		Foam Pump Test Points					
Range	Test Points (lpm)	Sim Water Flow (lpm)	Set Foam %	Range	Back Press. BAR	Range	Foam (lpm)
Mid	946	379	3.3%	Mid	24.1	Mid	12.5
Min	76	40	1.0%	Min	0.0	Min	0.4
Max	2839	400	6.0%	Max	8.6	Max	24.0

3" Thread or 4" Victaulic

Range	Water Flow (lpm)	Range	Back Press. BAR	Foam %	Range	Foam Cap. (lpm)
Min	114	Min	0.0	0.3%	Min	0.38
Max	3028	Max	8.6	0.8%	Max	24.00
Min	114	Max	24.1	0.3%	Min	0.38
Max	4353	Min	0.0	0.6%	Max	24.00
Mid	2233	Mid	8.6	1.1%	Mid	24.00

Flowmeter		Foam Pump Test Points					
Range	Test Points (lpm)	Sim Water Flow (lpm)	Set Foam %	Range	Back Press. BAR	Range	Foam (lpm)
Mid	1420	379	3.3%	Mid	24.1	Mid	12.5
Min	114	40	1.0%	Min	0.0	Min	0.4
Max	2953	400	6.0%	Max	8.6	Max	24.0

4" Thread or 5" Victaulic

Range	Water Flow (lpm)	Range	Back Press. BAR	Foam %	Range	Foam Cap. (lpm)
Min	208	Min	0.0	0.2%	Min	0.38
Max	3028	Max	8.6	0.8%	Max	24.00
Min	208	Max	24.1	0.2%	Min	0.38
Max	7495	Min	0.0	0.3%	Max	24.00
Mid	3861	Mid	8.6	0.6%	Mid	24.00

Flowmeter		Foam Pump Test Points					
Range	Test Points (lpm)	Sim Water Flow (lpm)	Set Foam %	Range	Back Press. BAR	Range	Foam (lpm)
Mid	2366	379	3.3%	Mid	24.1	Mid	12.5
Min	208	40	1.0%	Min	0.0	Min	0.4
Max	7495	400	6.0%	Max	8.6	Max	24.0

Type tested to all known Class A and B Foam Concentrates including Alcohol Resistant Concentrates up to 2000 cps

Installer Certification
Installed, Calibrated and Tested to FoamPro's Installation Recommendations and Purchaser's Specifications

Tester _____
Date _____