



1. DESCRIPTION

This bulletin shows the calculated friction loss in pipe for select Fomtec Enviro foam concentrates. The data used to generate the graphs originates from the manufacturer, Fomtec, and the values shown were calculated using established industry related equations and the 3X standard deviation rule.

2. INTENDED USE

This bulletin presents information that derived from the foam concentrate manufacturer, Fomtec, and is for reference only. The information is neither represented nor implied as part of the foam concentrates' listings or approvals or associated devices or piping network. The final determination for compliance, design, and project review is with the Authority Having Jurisdiction (AHJ) and/or the Fire Projection Engineer (FPE), as referenced in applicable codes, standards, or design guidelines.

The technical information contained in this document is the product of The Viking Corporation. It is neither represented nor warranted by The Viking Corporation to constitute or reflect the position of the NFPA or any other similar listing, approval, or governmental organization. To the extent required, interpretations of industry standards and building codes must be obtained from the appropriate organization, governmental entity, or other recognized authority.

NOTE: *The information in this document should be used for piping system design in foam pump systems.*

3. LISTINGS AND APPROVALS

NOTICE

Always refer to the specific foam concentrate's technical data sheet for complete Listing specifications.

⚠ WARNING

Always refer to the technical data sheets, Handling and Installation Instructions, and the Operation and Maintenance Instructions for important information.

Fomtec Enviro ARK SFFF Fluorine-Free and USP SFFF Fluorine-Free Foam Concentrates and are manufactured by Fomtec™ and distributed by The Viking Corporation.

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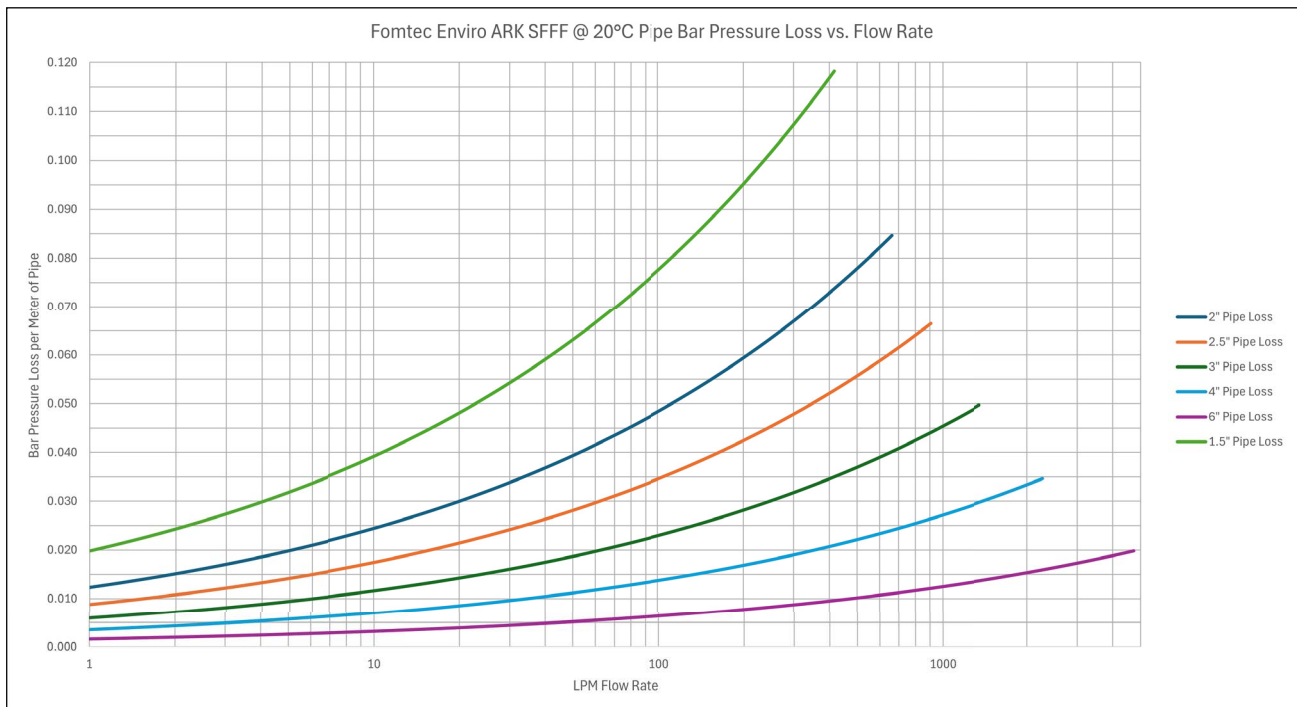
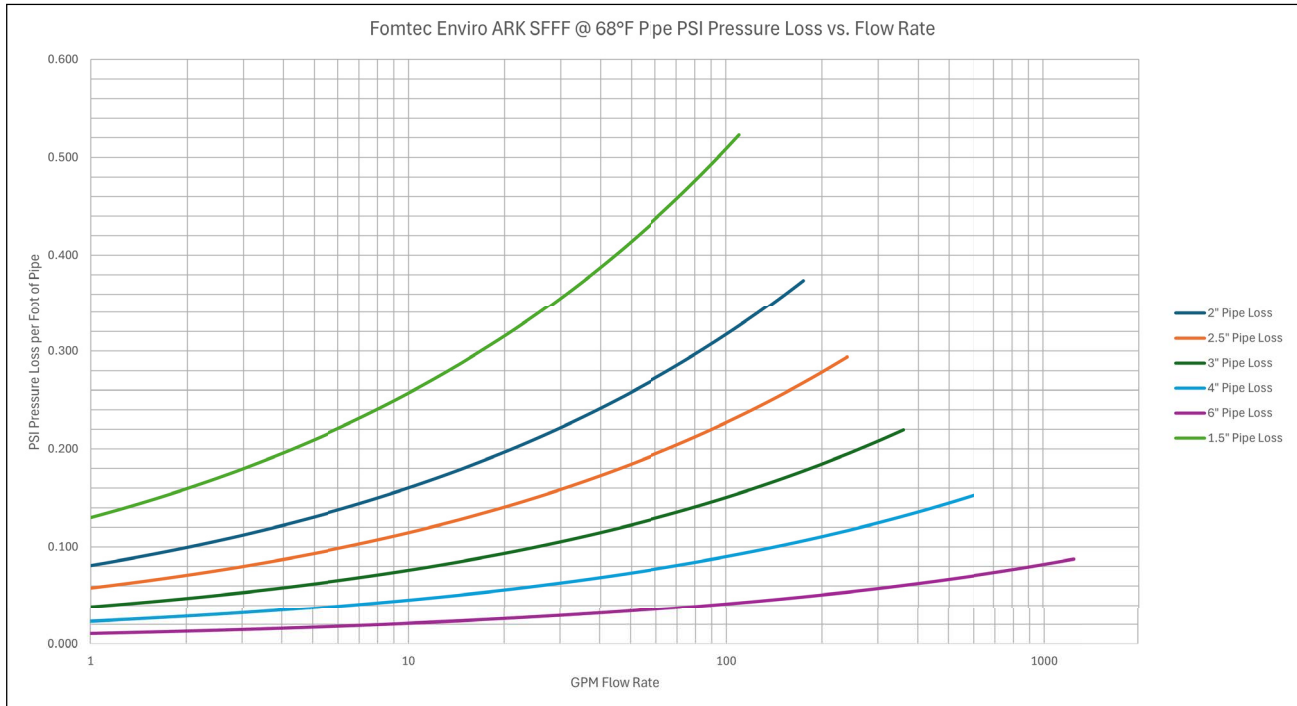
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TECHNICAL BULLETIN

FOAM CONCENTRATE FRICTION LOSS DATA

5. FOMTEC ENVIRO ARK SFFF FLUORINE-FREE FOAM CONCENTRATE AT 68°F (20°C)





TECHNICAL BULLETIN

FOAM CONCENTRATE FRICTION LOSS DATA

Pressure Loss for Fomtec Enviro ARK SFFF Fluorine-Free Foam Concentrate at 68°F (20°C)

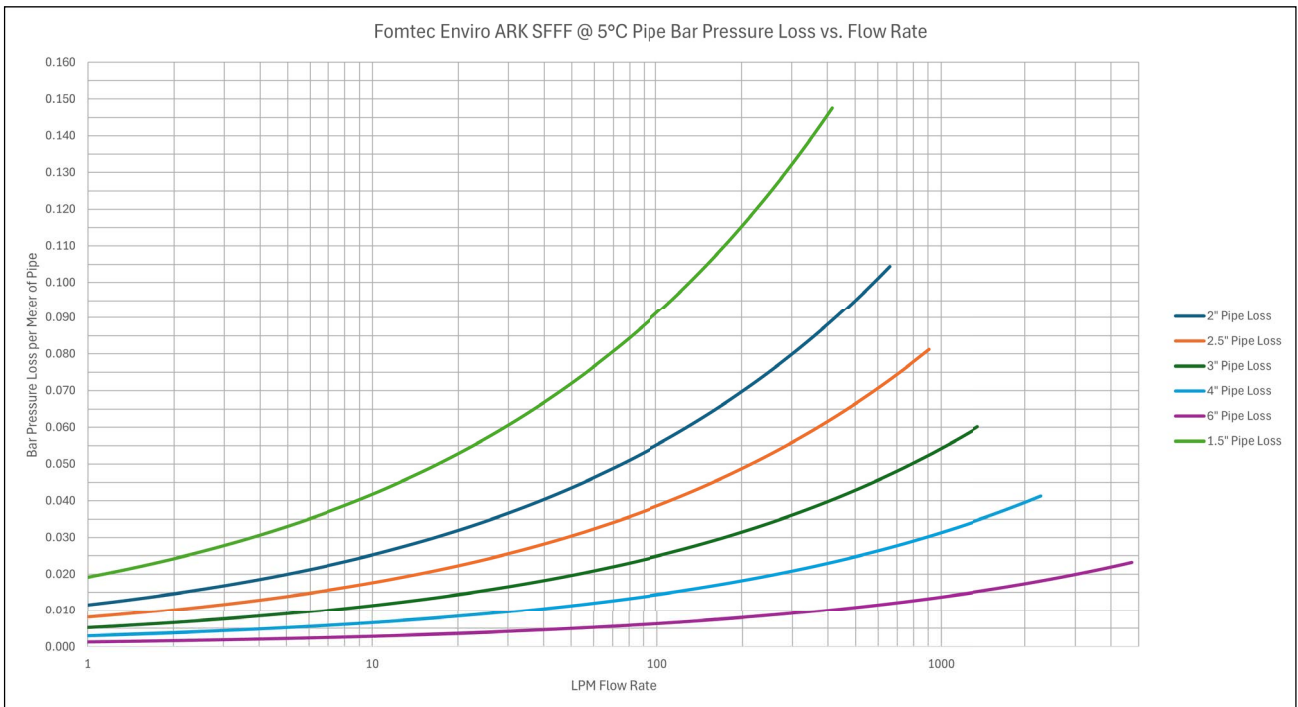
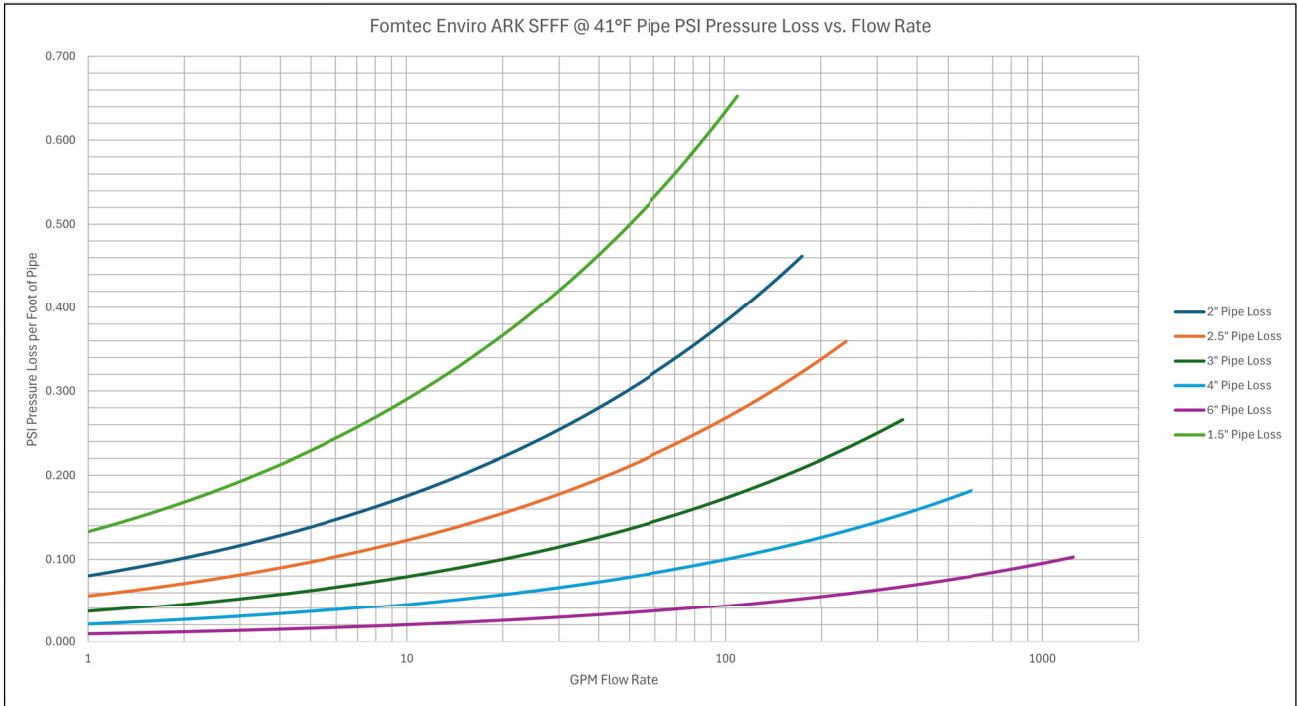
PSI Loss Per Foot												Bar Loss Per Meter											
GPM	1.5" Pipe	GPM	2" Pipe	GPM	2.5" Pipe	GPM	3" Pipe	GPM	4" Pipe	GPM	6" Pipe	LPM	DN40 Pipe	LPM	DN50 Pipe	LPM	DN65 Pipe	LPM	DN80 Pipe	LPM	DN100 Pipe	LPM	DN150 Pipe
1.5	0.146	1.5	0.091	1.5	0.065	1.5	0.043	1.5	0.026	1.5	0.012	6	0.033	6	0.021	6	0.015	6	0.010	6	0.006	6	0.003
3	0.180	3	0.112	3	0.080	5	0.062	5	0.037	10	0.021	11	0.041	11	0.025	11	0.018	19	0.014	19	0.008	38	0.005
6	0.221	6	0.138	6	0.098	10	0.076	10	0.045	20	0.026	23	0.050	23	0.031	23	0.022	38	0.017	38	0.010	76	0.006
10	0.257	10	0.160	10	0.115	20	0.093	20	0.056	50	0.034	38	0.058	38	0.036	38	0.026	76	0.021	76	0.013	189	0.008
15	0.290	15	0.181	15	0.129	40	0.115	50	0.073	100	0.041	57	0.066	57	0.041	57	0.029	151	0.026	189	0.017	379	0.009
20	0.315	20	0.197	20	0.141	60	0.129	100	0.090	150	0.047	76	0.071	76	0.045	76	0.032	227	0.029	379	0.020	568	0.011
30	0.356	30	0.222	30	0.159	100	0.150	150	0.101	200	0.051	114	0.080	114	0.050	114	0.036	379	0.034	568	0.023	757	0.012
40	0.387	40	0.242	50	0.185	150	0.170	200	0.111	250	0.054	151	0.088	151	0.055	189	0.042	568	0.038	757	0.025	946	0.012
50	0.414	50	0.258	100	0.227	200	0.185	250	0.118	300	0.057	189	0.094	189	0.058	379	0.051	757	0.042	946	0.027	1136	0.013
80	0.476	80	0.297	150	0.256	250	0.197	300	0.125	400	0.063	303	0.108	303	0.067	568	0.058	946	0.045	1136	0.028	1514	0.014
110	0.523	110	0.326	200	0.278	300	0.208	400	0.136	500	0.067	416	0.118	416	0.074	757	0.063	1136	0.047	1514	0.031	1893	0.015
--	--	150	0.358	240	0.294	350	0.218	500	0.145	750	0.075	--	--	568	0.081	908	0.066	1325	0.049	1893	0.033	2839	0.017
--	--	175	0.374	--	--	360	0.220	600	0.153	1000	0.082	--	--	662	0.085	--	--	1363	0.050	2271	0.035	3785	0.019
--	--	--	--	--	--	--	--	--	--	1250	0.088	--	--	--	--	--	--	--	--	--	--	4731	0.020



TECHNICAL BULLETIN

FOAM CONCENTRATE FRICTION LOSS DATA

6. FOMTEC ENVIRO ARK SFFF FLUORINE-FREE FOAM CONCENTRATE AT 41°F (5°C)





TECHNICAL BULLETIN

FOAM CONCENTRATE FRICTION LOSS DATA

Pressure Loss for Fomtec Enviro ARK SFFF Fluorine-Free Foam Concentrate at 41°F (5°C)

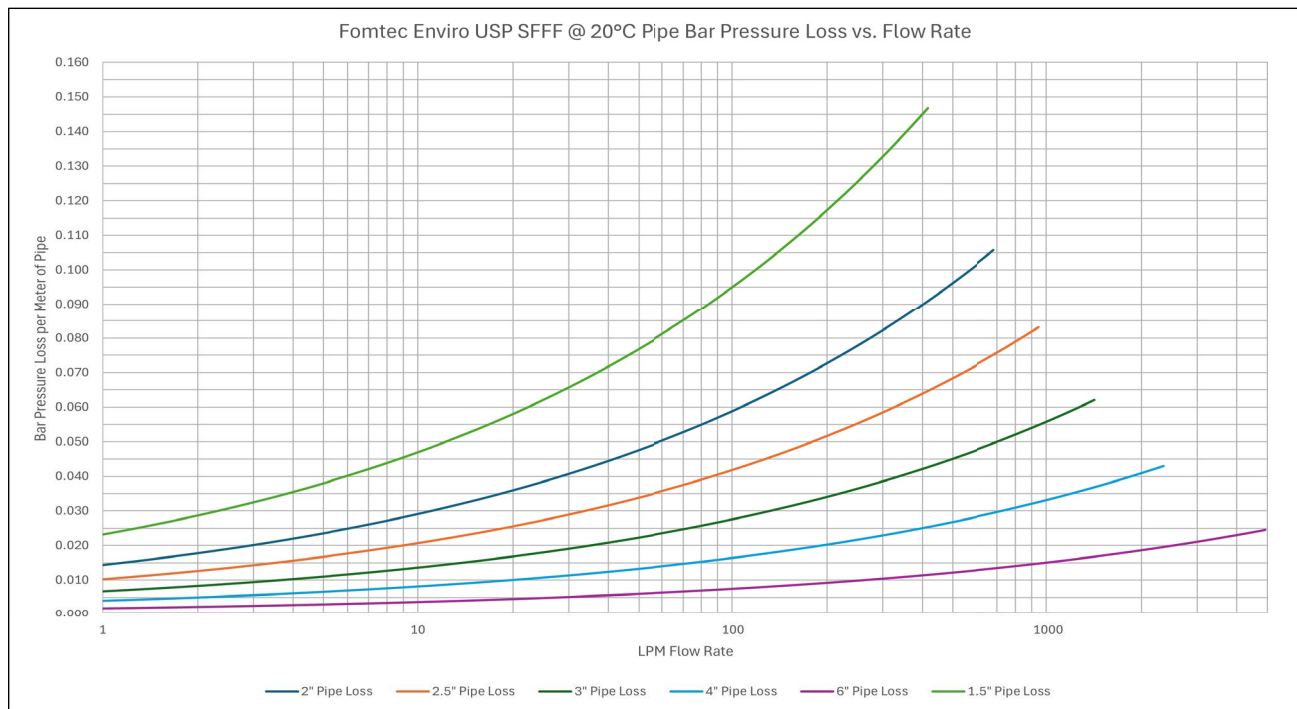
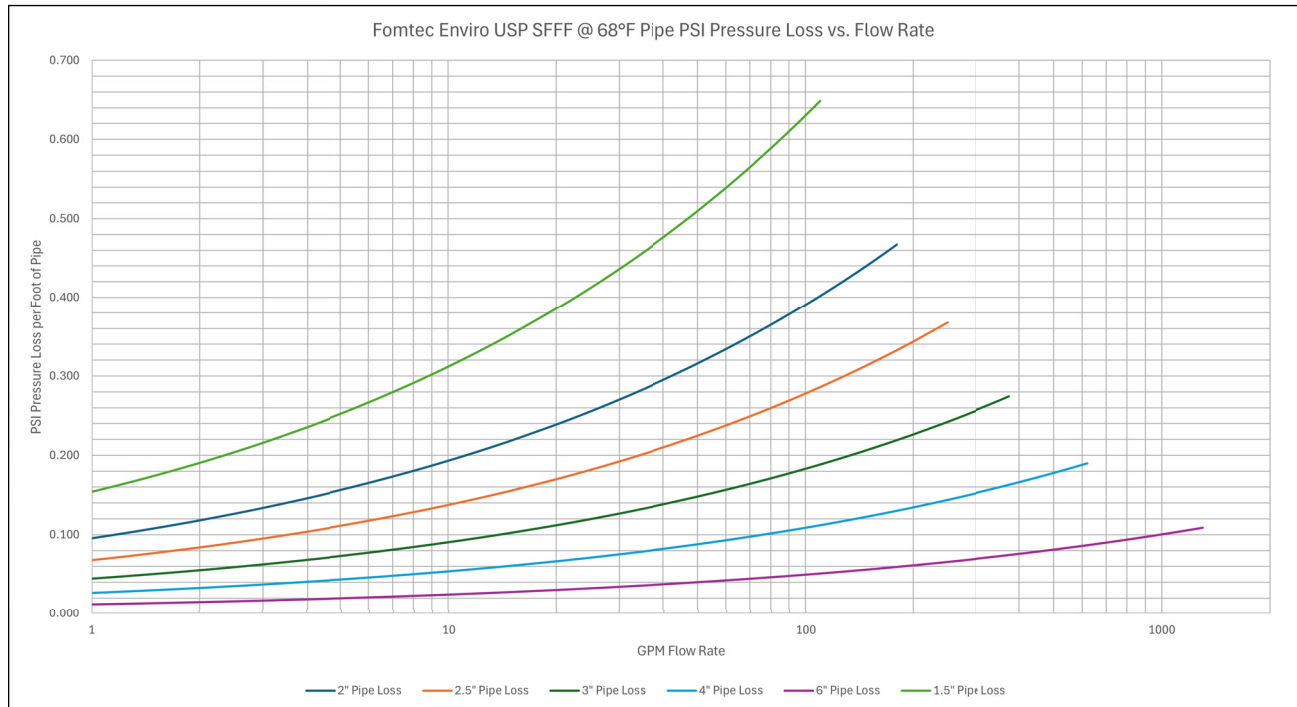
PSI Loss Per Foot											Bar Loss Per Meter													
GPM	1.5" Pipe	GPM	2" Pipe	GPM	2.5" Pipe	GPM	3" Pipe	GPM	4" Pipe	GPM	6" Pipe	LPM	DN40 Pipe	LPM	DN50 Pipe	LPM	DN65 Pipe	LPM	DN80 Pipe	LPM	DN100 Pipe	LPM	DN150 Pipe	
1.5	0.152	1.5	0.092	1.5	0.064	1.5	0.042	1.5	0.024	1.5	0.011	6	0.034	6	0.021	6	0.015	6	0.009	6	0.005	6	0.002	
3	0.193	3	0.117	3	0.081	5	0.062	5	0.036	10	0.020	11	0.044	11	0.026	11	0.018	19	0.014	19	0.008	38	0.005	
6	0.244	6	0.147	6	0.103	10	0.079	10	0.046	20	0.025	23	0.055	23	0.033	23	0.023	38	0.018	38	0.010	76	0.006	
10	0.290	10	0.175	10	0.122	20	0.100	20	0.058	50	0.034	38	0.066	38	0.040	38	0.028	76	0.023	76	0.013	189	0.008	
15	0.332	15	0.201	15	0.140	40	0.126	50	0.079	100	0.044	57	0.075	57	0.045	57	0.032	151	0.029	189	0.018	379	0.010	
20	0.366	20	0.221	20	0.155	60	0.145	100	0.100	150	0.050	76	0.083	76	0.050	76	0.035	227	0.033	379	0.023	568	0.011	
30	0.420	30	0.254	30	0.178	100	0.172	150	0.114	200	0.055	114	0.095	114	0.057	114	0.040	379	0.039	568	0.026	757	0.012	
40	0.463	40	0.280	50	0.211	150	0.198	200	0.126	250	0.059	151	0.105	151	0.063	189	0.048	568	0.045	757	0.028	946	0.013	
50	0.500	50	0.302	100	0.267	200	0.218	250	0.136	300	0.063	189	0.113	189	0.068	379	0.060	757	0.049	946	0.031	1,136	0.014	
80	0.586	80	0.354	150	0.306	250	0.235	300	0.144	400	0.070	303	0.133	303	0.080	568	0.069	946	0.053	1,136	0.033	1,514	0.016	
110	0.653	110	0.394	200	0.337	300	0.250	400	0.159	500	0.075	416	0.148	416	0.089	757	0.076	1,136	0.057	1,514	0.036	1,893	0.017	
--	--	150	0.438	240	0.359	350	0.263	500	0.172	750	0.086	--	--	568	0.099	908	0.081	1,325	0.060	1,893	0.039	2,839	0.020	
--	--	175	0.461	--	--	360	0.266	600	0.183	1,000	0.095	--	--	662	0.104	--	--	1,363	0.060	2,271	0.041	3,785	0.022	
--	--	--	--	--	--	--	--	--	--	1,250	0.103	--	--	--	--	--	--	--	--	--	--	--	4,731	0.023



TECHNICAL BULLETIN

FOAM CONCENTRATE FRICTION LOSS DATA

7. FOMTEC ENVIRO USP SFFF FLUORINE-FREE FOAM CONCENTRATE AT 68°F (20°C)





TECHNICAL BULLETIN

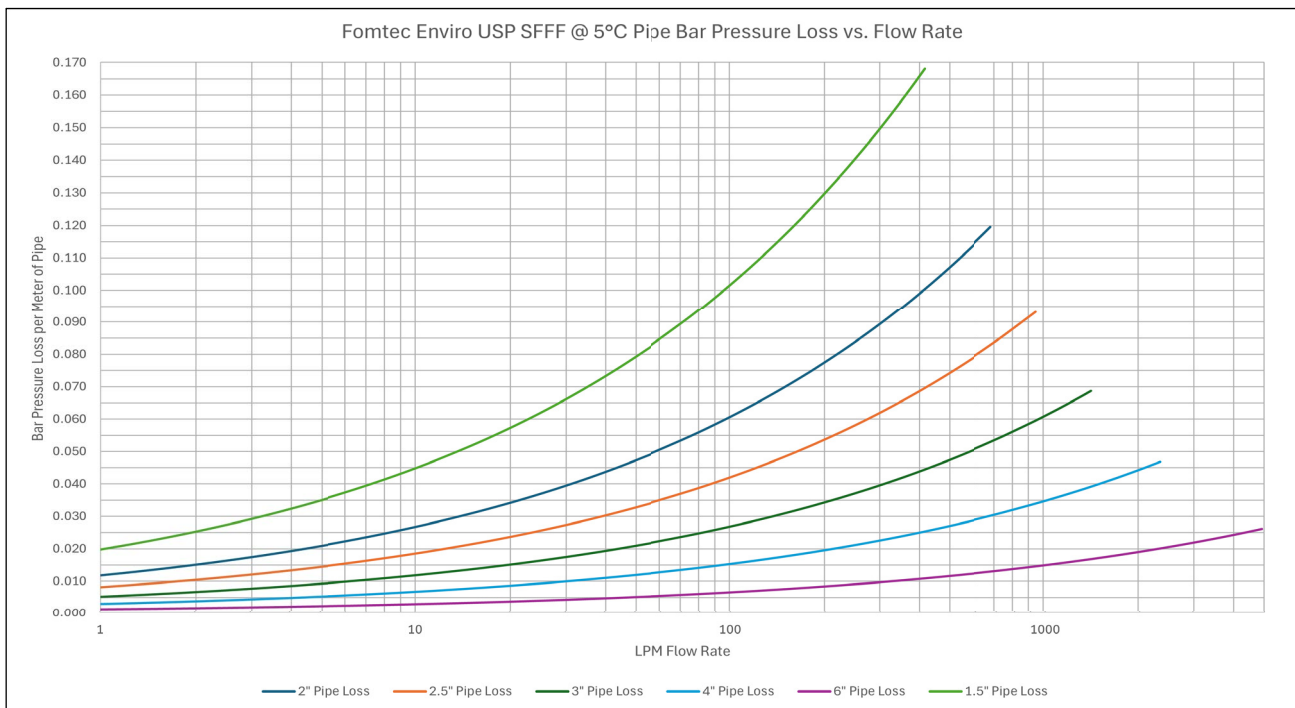
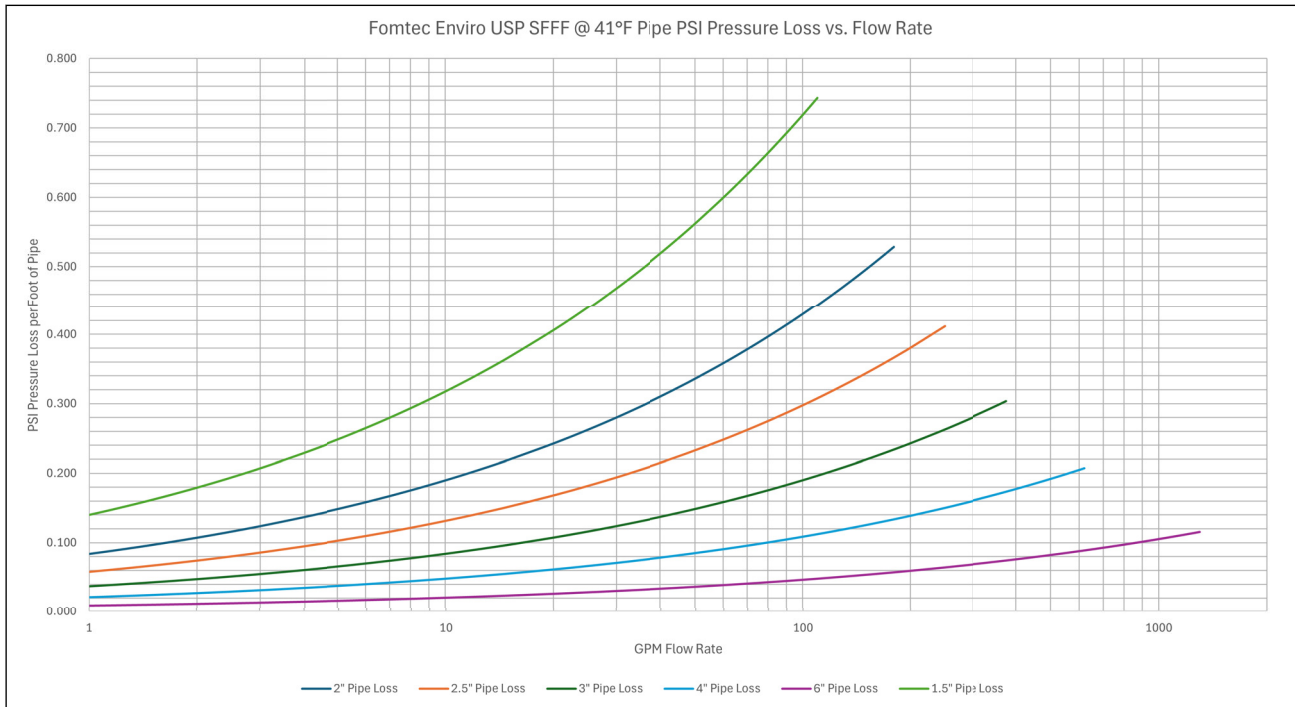
FOAM CONCENTRATE FRICTION LOSS DATA

Pressure Loss for Fomtec Enviro USP SFFF Fluorine-Free Foam Concentrate at 68°F (20°C)

PSI Loss Per Foot											Bar Loss Per Meter												
GPM	1.5" Pipe	GPM	2" Pipe	GPM	2.5" Pipe	GPM	3" Pipe	GPM	4" Pipe	GPM	6" Pipe	LPM	DN40 Pipe	LPM	DN50 Pipe	LPM	DN65 Pipe	LPM	DN80 Pipe	LPM	DN100 Pipe	LPM	DN150 Pipe
1.5	0.175	1.5	0.108	1.5	0.077	1.5	0.051	1.5	0.030	1.5	0.014	6	0.039	6	0.024	6	0.017	6	0.011	6	0.007	6	0.003
3	0.216	3	0.134	3	0.095	5	0.073	5	0.044	10	0.025	11	0.049	11	0.030	11	0.022	19	0.017	19	0.010	38	0.006
6	0.267	6	0.165	6	0.118	10	0.091	10	0.054	20	0.030	23	0.060	23	0.037	23	0.027	38	0.020	38	0.012	76	0.007
10	0.312	10	0.193	10	0.137	20	0.112	20	0.067	50	0.040	38	0.071	38	0.044	38	0.031	76	0.025	76	0.015	189	0.009
15	0.353	15	0.219	15	0.155	40	0.138	50	0.088	100	0.050	57	0.080	57	0.049	57	0.035	151	0.031	189	0.020	379	0.011
20	0.385	20	0.239	20	0.170	60	0.157	100	0.109	150	0.056	76	0.087	76	0.054	76	0.038	227	0.035	379	0.025	568	0.013
30	0.436	30	0.270	30	0.192	100	0.183	150	0.123	200	0.061	114	0.099	114	0.061	114	0.043	379	0.041	568	0.028	757	0.014
40	0.476	40	0.295	50	0.225	150	0.207	200	0.134	250	0.066	151	0.108	151	0.067	189	0.051	568	0.047	757	0.030	946	0.015
50	0.510	50	0.316	100	0.278	200	0.226	250	0.144	300	0.069	189	0.115	189	0.071	379	0.063	757	0.051	946	0.033	1,136	0.016
80	0.589	80	0.395	150	0.314	250	0.242	300	0.152	400	0.076	303	0.133	303	0.082	568	0.071	946	0.055	1,136	0.034	1,514	0.017
110	0.649	110	0.402	200	0.343	300	0.256	400	0.166	500	0.081	416	0.147	416	0.091	757	0.078	1,136	0.058	1,514	0.038	1,893	0.018
--	--	150	0.442	250	0.367	350	0.269	500	0.178	750	0.092	--	--	568	0.100	946	0.083	1,325	0.061	1,893	0.040	2,839	0.021
--	--	180	0.467	--	--	375	0.274	600	0.188	1,000	0.100	--	--	681	0.106	--	--	1,419	0.062	2,271	0.043	3,785	0.023
--	--	--	--	--	--	--	--	620	0.190	1,300	0.109	--	--	--	--	--	--	--	--	--	--	4,921	0.025



8. FOMTEC ENVIRO USP SFFF FLUORINE-FREE FOAM CONCENTRATE AT 41°F (5°C)





TECHNICAL BULLETIN

FOAM CONCENTRATE FRICTION LOSS DATA

Pressure Loss for Fomtec Enviro USP SFFF Fluorine-Free Foam Concentrate at 41°F (5°C)

PSI Loss Per Foot											Bar Loss Per Meter												
GPM	1.5" Pipe	GPM	2" Pipe	GPM	2.5" Pipe	GPM	3" Pipe	GPM	4" Pipe	GPM	6" Pipe	LPM	DN40 Pipe	LPM	DN50 Pipe	LPM	DN65 Pipe	LPM	DN80 Pipe	LPM	DN100 Pipe	LPM	DN150 Pipe
1.5	0.162	1.5	0.097	1.5	0.067	1.5	0.043	1.5	0.024	1.5	0.010	6	0.037	6	0.022	6	0.015	6	0.010	6	0.006	6	0.002
3	0.207	3	0.124	3	0.086	5	0.066	5	0.037	10	0.021	11	0.047	11	0.028	11	0.019	19	0.015	19	0.008	38	0.005
6	0.265	6	0.158	6	0.110	10	0.084	10	0.048	20	0.026	23	0.060	23	0.036	23	0.025	38	0.019	38	0.011	76	0.006
10	0.318	10	0.190	10	0.131	20	0.107	20	0.061	50	0.036	38	0.072	38	0.043	38	0.030	76	0.024	76	0.014	189	0.008
15	0.367	15	0.219	15	0.152	40	0.137	50	0.085	100	0.047	57	0.083	57	0.050	57	0.034	151	0.031	189	0.019	379	0.011
20	0.406	20	0.242	20	0.168	60	0.158	100	0.108	150	0.054	76	0.092	76	0.055	76	0.038	227	0.036	379	0.025	568	0.012
30	0.469	30	0.280	30	0.194	100	0.190	150	0.125	200	0.059	114	0.106	114	0.063	114	0.044	379	0.043	568	0.028	757	0.013
40	0.519	40	0.310	50	0.233	150	0.219	200	0.139	250	0.064	151	0.117	151	0.070	189	0.053	568	0.050	757	0.031	946	0.015
50	0.562	50	0.336	100	0.297	200	0.243	250	0.150	300	0.069	189	0.127	189	0.076	379	0.067	757	0.055	946	0.034	1,136	0.016
80	0.664	80	0.396	110	0.308	250	0.263	300	0.160	400	0.076	303	0.150	303	0.090	416	0.070	946	0.059	1,136	0.036	1,514	0.017
110	0.743	110	0.444	150	0.343	300	0.280	400	0.177	500	0.082	416	0.168	416	0.100	568	0.078	1,136	0.063	1,514	0.040	1,893	0.019
--	--	150	0.495	200	0.380	350	0.296	500	0.192	750	0.095	--	--	568	0.112	757	0.086	1,325	0.067	1,893	0.043	2,839	0.022
--	--	180	0.528	250	0.411	375	0.303	600	0.205	1000	0.105	--	--	681	0.120	--	--	1,363	0.069	2,271	0.046	3,785	0.024
--	--	--	--	--	--	--	--	620	0.207	1300	0.116	--	--	--	--	--	--	--	--	--	--	4,921	0.026