

Netafim Bioline-UniRam Emitter w/silicone diaphragm 2009
Design pressure losses for 2 fps and 1.5 fps flushing velocity

Distance, ft	0.61 gph @ 12", 2.0 fps		0.61 gph @ 12", 1.5 fps		0.61 gph @ 24", 2.0 fps		0.61 gph @ 24", 1.5 fps	
	Loss, psi	Loss, ft-H2O	Loss, psi	Loss, ft-H2O	Loss, psi	Loss, ft-H2O	Loss, psi	Loss, ft-H2O
0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0
10	0.55	1.3	0.33	0.8	0.42	1.0	0.25	0.6
20	1.16	2.7	0.70	1.6	0.80	1.8	0.48	1.1
30	1.83	4.2	1.12	2.6	1.20	2.8	0.72	1.7
40	2.58	6.0	1.60	3.7	1.62	3.7	0.98	2.3
50	3.40	7.9	2.14	5.0	2.07	4.8	1.27	2.9
60	4.30	9.9	2.75	6.4	2.53	5.9	1.57	3.6
70	5.29	12.2	3.43	7.9	3.03	7.0	1.88	4.4
80	6.36	14.7	4.18	9.7	3.55	8.2	2.22	5.1
90	7.52	17.4	5.01	11.6	4.09	9.4	2.59	6.0
100	8.78	20.3	5.92	13.7	4.66	10.8	2.97	6.9
110	10.13	23.4	6.91	16.0	5.25	12.1	3.37	7.8
120	11.58	26.8	7.99	18.5	5.88	13.6	3.80	8.8
130	13.14	30.4	9.16	21.2	6.52	15.1	4.25	9.8
140	14.81	34.2	10.42	24.1	7.20	16.6	4.72	10.9
150	16.59	38.3	11.78	27.2	7.91	18.3	5.22	12.0
160	18.48	42.7	13.25	30.6	8.64	20.0	5.74	13.3
170	20.49	47.3	14.81	34.2	9.41	21.7	6.28	14.5
180	22.62	52.3	16.49	38.1	10.20	23.6	6.86	15.8
190	24.88	57.5	18.27	42.2	11.03	25.5	7.46	17.2
200	27.26	63.0	20.17	46.6	11.89	27.5	8.08	18.7
210	29.78	68.8	22.19	51.3	12.77	29.5	8.74	20.2
220	32.44	74.9	24.34	56.2	13.70	31.6	9.42	21.8
230	35.23	81.4	26.60	61.5	14.65	33.8	10.13	23.4
240	38.16	88.2	29.00	67.0	15.64	36.1	10.87	25.1
250	41.24	95.3	31.53	72.8	16.66	38.5	11.64	26.9
260	44.47	102.7	34.19	79.0	17.72	40.9	12.44	28.7
270	47.85	110.5	36.99	85.4	18.81	43.4	13.27	30.6
280	51.39	118.7	39.94	92.3	19.93	46.0	14.13	32.6
290	55.08	127.2	43.03	99.4	21.10	48.7	15.02	34.7
300	58.94	136.2	46.27	106.9	22.30	51.5	15.95	36.8

Distance, ft	0.61 gph @ 12", 2.0 fps		0.61 gph @ 12", 1.5 fps		0.61 gph @ 24", 2.0 fps		0.61 gph @ 24", 1.5 fps	
	Loss, psi	Loss, ft-H2O	Loss, psi	Loss, ft-H2O	Loss, psi	Loss, ft-H2O	Loss, psi	Loss, ft-H2O
310	62.97	145.5	49.66	114.7	23.53	54.4	16.91	39.1
320	67.16	155.1	53.21	122.9	24.81	57.3	17.90	41.3
330	71.53	165.2	56.92	131.5	26.12	60.3	18.93	43.7
340	76.07	175.7	60.79	140.4	27.48	63.5	19.99	46.2
350	80.80	186.6	64.83	149.8	28.87	66.7	21.09	48.7
360	85.70	198.0	69.03	159.5	30.30	70.0	22.22	51.3
370	90.79	209.7	73.41	169.6	31.77	73.4	23.39	54.0
380	96.08	221.9	77.97	180.1	33.28	76.9	24.59	56.8
390	101.55	234.6	82.71	191.1	34.84	80.5	25.84	59.7
400	107.22	247.7	87.63	202.4	36.44	84.2	27.12	62.6
410	113.09	261.2	92.73	214.2	38.08	88.0	28.44	65.7
420	119.16	275.3	98.03	226.4	39.76	91.8	29.79	68.8
430	125.44	289.8	103.52	239.1	41.48	95.8	31.19	72.1
440	131.93	304.8	109.21	252.3	43.25	99.9	32.63	75.4
450	138.64	320.2	115.09	265.9	45.07	104.1	34.11	78.8
460	145.56	336.2	121.18	279.9	46.93	108.4	35.63	82.3
480	160.05	369.7	133.98	309.5	50.79	117.3	38.79	89.6
500	175.46	405.3	147.63	341.0	54.83	126.7	42.13	97.3
520	191.80	443.1	162.17	374.6	59.07	136.5	45.64	105.4
540	209.09	483.0	177.61	410.3	63.51	146.7	49.33	113.9
560	227.37	525.2	193.98	448.1	68.14	157.4	53.20	122.9
580	246.66	569.8	211.31	488.1	72.98	168.6	57.26	132.3
600	266.99	616.8	229.63	530.4	78.02	180.2	61.51	142.1

Note: Yellow area is outside of recommended pressure loss range for Bioline.

Netafim Bioline-UniRam Emitter w/silicone diaphragm 2009
Design pressure losses for 2 fps and 1.5 fps flushing velocity

Distance, ft	0.92 gph @ 12", 2.0 fps		0.92 gph @ 12", 1.5 fps		0.92 gph @ 24", 2.0 fps		0.92 gph @ 24", 1.5 fps	
	Loss, psi	Loss, ft-H2O	Loss, psi	Loss, ft-H2O	Loss, psi	Loss, ft-H2O	Loss, psi	Loss, ft-H2O
0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0
10	0.57	1.3	0.34	0.8	0.42	1.0	0.25	0.6
20	1.23	2.8	0.75	1.7	0.82	1.9	0.49	1.1
30	1.99	4.6	1.25	2.9	1.25	2.9	0.76	1.8
40	2.88	6.7	1.85	4.3	1.71	4.0	1.06	2.4
50	3.89	9.0	2.55	5.9	2.21	5.1	1.38	3.2
60	5.04	11.6	3.37	7.8	2.75	6.4	1.74	4.0
70	6.33	14.6	4.30	9.9	3.33	7.7	2.13	4.9
80	7.78	18.0	5.37	12.4	3.95	9.1	2.55	5.9
90	9.38	21.7	6.58	15.2	4.61	10.6	3.01	7.0
100	11.15	25.8	7.94	18.3	5.31	12.3	3.51	8.1
110	13.10	30.3	9.44	21.8	6.06	14.0	4.04	9.3
120	15.23	35.2	11.12	25.7	6.86	15.8	4.61	10.7
130	17.55	40.5	12.96	29.9	7.70	17.8	5.23	12.1
140	20.07	46.4	14.98	34.6	8.59	19.8	5.88	13.6
150	22.80	52.7	17.19	39.7	9.53	22.0	6.58	15.2
160	25.74	59.5	19.60	45.3	10.51	24.3	7.32	16.9
170	28.91	66.8	22.20	51.3	11.56	26.7	8.10	18.7
180	32.30	74.6	25.02	57.8	12.65	29.2	8.94	20.6
190	35.94	83.0	28.06	64.8	13.80	31.9	9.82	22.7
200	39.82	92.0	31.32	72.3	15.01	34.7	10.75	24.8
210	43.96	101.6	34.82	80.4	16.27	37.6	11.73	27.1
220	48.36	111.7	38.56	89.1	17.59	40.6	12.76	29.5
230	53.03	122.5	42.55	98.3	18.97	43.8	13.85	32.0
240	57.98	133.9	46.79	108.1	20.41	47.1	14.99	34.6
250	63.22	146.0	51.31	118.5	21.91	50.6	16.19	37.4
260	68.75	158.8	56.09	129.6	23.48	54.2	17.44	40.3
270	74.58	172.3	61.16	141.3	25.11	58.0	18.75	43.3
280	80.72	186.5	66.52	153.7	26.80	61.9	20.12	46.5
290	87.17	201.4	72.17	166.7	28.57	66.0	21.55	49.8
300	93.95	217.0	78.13	180.5	30.40	70.2	23.05	53.2

Distance, ft	0.92 gph @ 12", 2.0 fps		0.92 gph @ 12", 1.5 fps		0.92 gph @ 24", 2.0 fps		0.92 gph @ 24", 1.5 fps	
	Loss, psi	Loss, ft-H2O	Loss, psi	Loss, ft-H2O	Loss, psi	Loss, ft-H2O	Loss, psi	Loss, ft-H2O
310	101.06	233.5	84.40	195.0	32.30	74.6	24.60	56.8
320	108.52	250.7	91.00	210.2	34.27	79.2	26.22	60.6
330	116.32	268.7	97.92	226.2	36.31	83.9	27.91	64.5
340	124.47	287.5	105.17	242.9	38.43	88.8	29.66	68.5
350	132.99	307.2	112.77	260.5	40.62	93.8	31.48	72.7
360	141.88	327.7	120.72	278.9	42.88	99.1	33.37	77.1
370	151.15	349.2	129.02	298.0	45.22	104.5	35.33	81.6
380	160.80	371.5	137.70	318.1	47.64	110.1	37.36	86.3
390	170.85	394.7	146.75	339.0	50.14	115.8	39.46	91.2
400	181.30	418.8	156.17	360.8	52.72	121.8	41.64	96.2
410	192.16	443.9	165.99	383.4	55.38	127.9	43.89	101.4
420	203.43	469.9	176.21	407.0	58.13	134.3	46.22	106.8
430	215.13	496.9	186.83	431.6	60.95	140.8	48.63	112.3
440	227.26	525.0	197.86	457.1	63.86	147.5	51.12	118.1
450	239.83	554.0	209.31	483.5	66.86	154.4	53.68	124.0
460	252.84	584.1	221.19	510.9	69.95	161.6	56.33	130.1
480	280.25	647.4	246.26	568.9	76.38	176.4	61.87	142.9
500	309.53	715.0	273.13	630.9	83.18	192.2	67.76	156.5
520	340.75	787.1	301.86	697.3	90.36	208.7	73.99	170.9
540	373.97	863.9	332.51	768.1	97.92	226.2	80.58	186.1
560	409.24	945.4	365.14	843.5	105.86	244.5	87.53	202.2
580	446.64	1031.7	399.82	923.6	114.21	263.8	94.87	219.1
600	486.22	1123.2	436.60	1008.5	122.98	284.1	102.59	237.0

Note: Yellow area is outside of recommended pressure loss range for Bioline.