Pressure Loss Tables

Pressure Loss Per 100 Feet

¼" Wirsbo hePEX™ and Uponor AquaPEX® (100% Water)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.05	0.35	0.44	0.40	0.38	0.37	0.35	0.34	0.34	0.33
0.1	0.70	1.57	1.45	1.38	1.33	1.27	1.23	1.21	1.19
0.2	1.41	5.67	5.24	4.97	4.80	4.58	4.45	4.36	4.28
0.3	2.11	12.01	11.09	10.53	10.16	9.70	9.42	9.24	9.05
0.4	2.81	20.45	18.88	17.93	17.30	16.52	16.05	15.73	15.42
0.5	3.52	30.90	28.52	27.10	26.15	24.96	24.25	23.77	23.29
0.6	4.22	43.30	39.97	37.97	36.64	34.97	33.97	33.31	32.64
0.7	4.92	57.59	53.16	50.50	48.73	46.51	45.18	44.30	43.41
0.8	5.63	73.72	68.05	64.65	62.38	59.54	57.84	56.71	55.58
0.9	6.33	91.67	84.62	80.39	77.57	74.04	71.93	70.52	69.11
1.0	7.03	111.40	102.83	97.69	94.26	89.98	87.41	85.69	83.98
1.1	7.74	132.88	122.66	116.53	112.44	107.33	104.26	102.22	100.17
1.2	8.44	156.09	144.08	136.88	132.07	126.07	122.47	120.07	117.67
1.3	9.14	181.00	167.08	158.72	153.15	146.19	142.01	139.23	136.45
1.4	9.85	207.60	191.63	182.05	175.66	167.67	162.88	159.69	156.50
1.5	10.55	235.86	217.72	206.83	199.57	190.50	185.06	181.43	177.80

Pressure Loss Per 100 Feet

¼" Wirsbo hePEX and Uponor AquaPEX (30% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.05	0.35	0.54	0.50	0.47	0.46	0.44	0.42	0.42	0.41
0.1	0.70	1.95	1.80	1.71	1.65	1.58	1.53	1.50	1.47
0.2	1.41	7.03	6.49	6.17	5.95	5.68	5.52	5.41	5.30
0.3	2.11	14.89	13.75	13.06	12.60	12.03	11.69	11.46	11.23
0.4	2.81	25.36	23.41	22.24	21.46	20.48	19.90	19.51	19.12
0.5	3.52	38.32	35.37	33.60	32.42	30.95	30.06	29.48	28.89
0.6	4.22	53.69	49.56	47.08	45.43	43.36	42.13	41.30	40.47
0.7	4.92	71.41	65.91	62.62	60.42	57.67	56.03	54.93	53.83
0.8	5.63	91.42	84.38	80.16	77.35	73.84	71.73	70.32	68.91
0.9	6.33	113.67	104.93	99.68	96.18	91.81	89.19	87.44	85.69
1.0	7.03	138.13	127.51	121.13	116.88	111.57	108.38	106.26	104.13
1.1	7.74	164.77	152.10	144.49	139.42	133.08	129.28	126.75	124.21
1.2	8.44	193.55	178.66	169.73	163.77	156.33	151.86	148.88	145.91
1.3	9.14	224.44	207.17	196.82	189.91	181.28	176.10	172.65	169.19
1.4	9.85	257.42	237.62	225.74	217.82	207.92	201.97	198.01	194.05
1.5	10.55	292.46	269.97	256.47	247.47	236.22	229.47	224.97	220.47

Pressure Loss Per 100 Feet

¼" Wirsbo hePEX and Uponor AquaPEX (40% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.05	0.35	0.58	0.54	0.51	0.49	0.47	0.46	0.45	0.44
0.1	0.70	2.09	1.93	1.84	1.77	1.69	1.64	1.61	1.58
0.2	1.41	7.54	6.96	6.62	6.38	6.09	5.92	5.80	5.69
0.3	2.11	15.97	14.75	14.01	13.52	12.90	12.53	12.29	12.04
0.4	2.81	27.20	25.11	23.85	23.01	21.97	21.34	20.92	20.50
0.5	3.52	41.10	37.94	36.04	34.78	33.20	32.25	31.61	30.98
0.6	4.22	57.59	53.16	50.50	48.73	46.51	45.18	44.30	43.41
0.7	4.92	76.59	70.70	67.16	64.81	61.86	60.09	58.91	57.74
0.8	5.63	98.05	90.51	85.98	82.97	79.19	76.93	75.42	73.91
0.9	6.33	121.92	112.54	106.92	103.16	98.48	95.66	93.79	91.91
1.0	7.03	148.16	136.76	129.93	125.37	119.67	116.25	113.97	111.69
1.1	7.74	176.73	163.14	154.98	149.54	142.74	138.66	135.95	133.23
1.2	8.44	207.60	191.63	182.05	175.66	167.67	162.88	159.69	156.50
1.3	9.14	240.73	222.21	211.10	203.69	194.43	188.88	185.18	181.47
1.4	9.85	276.10	254.86	242.12	233.63	223.01	216.63	212.39	208.14
1.5	10.55	313.69	289.56	275.08	265.43	253.37	246.13	241.30	236.47

Pressure Loss Per 100 Feet

¼" Wirsbo hePEX and Uponor AquaPEX (50% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.05	0.35	0.61	0.56	0.54	0.52	0.49	0.48	0.47	0.46
0.1	0.70	2.20	2.03	1.93	1.86	1.78	1.73	1.69	1.66
0.2	1.41	7.94	7.33	6.96	6.72	6.41	6.23	6.11	5.99
0.3	2.11	16.81	15.52	14.75	14.23	13.58	13.19	12.93	12.68
0.4	2.81	28.63	26.43	25.11	24.23	23.12	22.46	22.02	21.58
0.5	3.52	43.26	39.93	37.94	36.61	34.94	33.94	33.28	32.61
0.6	4.22	60.62	55.95	53.16	51.29	48.96	47.56	46.63	45.70
0.7	4.92	80.62	74.42	70.70	68.22	65.12	63.26	62.02	60.77
0.8	5.63	103.21	95.27	90.51	87.33	83.36	80.98	79.39	77.81
0.9	6.33	128.34	118.47	112.54	108.59	103.66	100.70	98.72	96.75
1.0	7.03	155.96	143.96	136.76	131.97	125.97	122.37	119.97	117.57
1.1	7.74	186.03	171.72	163.14	157.41	150.26	145.96	143.10	140.24
1.2	8.44	218.52	201.71	191.63	184.90	176.50	171.46	168.09	164.73
1.3	9.14	253.40	233.91	222.21	214.41	204.67	198.82	194.92	191.02
1.4	9.85	290.63	268.28	254.86	245.92	234.74	228.04	223.56	219.09
1.5	10.55	330.20	304.80	289.56	279.40	266.70	259.08	254.00	248.92

Pressure Loss Tables

Pressure Loss Per 100 Feet

5/16" Wirsbo hePEX and Uponor AquaPEX (100% Water)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.1	0.48	0.17	0.16	0.15	0.15	0.14	0.13	0.13	0.13
0.2	0.96	0.62	0.57	0.54	0.52	0.50	0.49	0.48	0.47
0.3	1.44	2.23	2.06	1.95	1.89	1.80	1.75	1.71	1.68
0.4	1.92	4.72	4.36	4.14	3.99	3.81	3.70	3.63	3.56
0.5	2.40	8.04	7.42	7.05	6.80	6.49	6.31	6.18	6.06
0.6	2.87	12.14	11.21	10.65	10.28	9.81	9.53	9.34	9.15
0.7	3.35	17.02	15.71	14.92	14.40	13.74	13.35	13.09	12.83
0.8	3.83	22.63	20.89	19.85	19.15	18.28	17.76	17.41	17.06
0.9	4.31	28.97	26.74	25.41	24.51	23.40	22.73	22.29	21.84
1.0	4.79	36.03	33.25	31.59	30.48	29.10	28.27	27.71	27.16
1.1	5.27	43.78	40.41	38.39	37.04	35.36	34.35	33.68	33.00
1.2	5.75	52.22	48.20	45.79	44.19	42.18	40.97	40.17	39.37
1.3	6.23	61.34	56.62	53.79	51.90	49.54	48.13	47.19	46.24
1.4	6.71	71.13	65.66	62.38	60.19	57.45	55.81	54.72	53.62
1.5	7.19	81.58	75.31	71.54	69.03	65.89	64.01	62.76	61.50
1.6	7.67	92.69	85.56	81.28	78.43	74.87	72.73	71.30	69.87
1.7	8.14	104.44	96.41	91.59	88.38	84.36	81.95	80.34	78.74
1.8	8.62	116.84	107.85	102.46	98.87	94.37	91.68	89.88	88.08
1.9	9.10	129.87	119.88	113.89	109.89	104.90	101.90	99.90	97.90
2.0	9.58	143.54	132.49	125.87	121.45	115.93	112.62	110.41	108.20

Pressure Loss Per 100 Feet

5/16" Wirsbo hePEX and Uponor AquaPEX (30% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.1	0.48	0.21	0.20	0.19	0.18	0.17	0.17	0.16	0.16
0.2	0.96	0.77	0.71	0.67	0.65	0.62	0.60	0.59	0.58
0.3	1.44	2.76	2.55	2.42	2.34	2.23	2.17	2.13	2.08
0.4	1.92	5.85	5.40	5.13	4.95	4.73	4.59	4.50	4.41
0.5	2.40	9.97	9.20	8.74	8.43	8.05	7.82	7.67	7.51
0.6	2.87	15.06	13.90	13.21	12.74	12.16	11.82	11.58	11.35
0.7	3.35	21.10	19.48	18.50	17.85	17.04	16.55	16.23	15.91
0.8	3.83	28.06	25.90	24.61	23.74	22.67	22.02	21.59	21.15
0.9	4.31	35.93	33.16	31.50	30.40	29.02	28.19	27.64	27.08
1.0	4.79	44.67	41.24	39.17	37.80	36.08	35.05	34.36	33.68
1.1	5.27	54.29	50.11	47.60	45.93	43.85	42.59	41.76	40.92
1.2	5.75	64.75	59.77	56.78	54.79	52.30	50.81	49.81	48.81
1.3	6.23	76.06	70.21	66.70	64.36	61.44	59.68	58.51	57.34
1.4	6.71	88.20	81.42	77.35	74.63	71.24	69.21	67.85	66.49
1.5	7.19	101.16	93.38	88.71	85.60	81.71	79.37	77.82	76.26
1.6	7.67	114.94	106.09	100.79	97.25	92.83	90.18	88.41	86.64
1.7	8.14	129.51	119.55	113.57	109.59	104.61	101.62	99.62	97.63
1.8	8.62	144.88	133.74	127.05	122.59	117.02	113.68	111.45	109.22
1.9	9.10	161.04	148.65	141.22	136.27	130.07	126.36	123.88	121.40
2.0	9.58	177.98	164.29	156.08	150.60	143.76	139.65	136.91	134.17

Pressure Loss Per 100 Feet

5/16" Wirsbo hePEX and Uponor AquaPEX (40% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.1	0.48	0.23	0.21	0.20	0.19	0.18	0.18	0.18	0.17
0.2	0.96	0.82	0.76	0.72	0.70	0.66	0.65	0.63	0.62
0.3	1.44	2.96	2.74	2.60	2.51	2.39	2.33	2.28	2.24
0.4	1.92	6.28	5.79	5.50	5.31	5.07	4.93	4.83	4.73
0.5	2.40	10.69	9.87	9.37	9.04	8.63	8.39	8.22	8.06
0.6	2.87	16.15	14.91	14.16	13.67	13.05	12.67	12.42	12.18
0.7	3.35	22.63	20.89	19.85	19.15	18.28	17.76	17.41	17.06
0.8	3.83	30.10	27.78	26.39	25.47	24.31	23.62	23.15	22.69
0.9	4.31	38.53	35.57	33.79	32.60	31.12	30.23	29.64	29.05
1.0	4.79	47.91	44.23	42.02	40.54	38.70	37.59	36.86	36.12
1.1	5.27	58.23	53.75	51.06	49.27	47.03	45.69	44.79	43.89
1.2	5.75	69.45	64.11	60.91	58.77	56.10	54.49	53.43	52.36
1.3	6.23	81.58	75.31	71.54	69.03	65.89	64.01	62.76	61.50
1.4	6.71	94.60	87.33	82.96	80.05	76.41	74.23	72.77	71.32
1.5	7.19	108.51	100.16	95.15	91.81	87.64	85.14	83.47	81.80
1.6	7.67	123.28	113.80	108.11	104.31	99.57	96.73	94.83	92.93
1.7	8.14	138.91	128.23	121.81	117.54	112.20	108.99	106.86	104.72
1.8	8.62	155.40	143.44	136.27	131.49	125.51	121.93	119.54	117.15
1.9	9.10	172.73	159.44	151.47	146.16	139.51	135.53	132.87	130.21
2.0	9.58	190.90	176.22	167.41	161.53	154.19	149.78	146.85	143.91

Pressure Loss Per 100 Feet

5/16" Wirsbo hePEX and Uponor AquaPEX (50% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.1	0.48	0.24	0.22	0.21	0.20	0.19	0.19	0.18	0.18
0.2	0.96	0.87	0.80	0.76	0.73	0.70	0.68	0.67	0.65
0.3	1.44	3.12	2.88	2.74	2.64	2.52	2.45	2.40	2.35
0.4	1.92	6.61	6.10	5.79	5.59	5.34	5.18	5.08	4.98
0.5	2.40	11.25	10.39	9.87	9.52	9.09	8.83	8.65	8.48
0.6	2.87	17.00	15.69	14.91	14.39	13.73	13.34	13.08	12.82
0.7	3.35	23.82	21.99	20.89	20.16	19.24	18.69	18.32	17.96
0.8	3.83	31.68	29.25	27.78	26.81	25.59	24.86	24.37	23.88
0.9	4.31	40.56	37.44	35.57	34.32	32.76	31.82	31.20	30.58
1.0	4.79	50.44	46.56	44.23	42.68	40.74	39.57	38.80	38.02
1.1	5.27	61.29	56.58	53.75	51.86	49.50	48.09	47.15	46.20
1.2	5.75	73.11	67.49	64.11	61.86	59.05	57.36	56.24	55.11
1.3	6.23	85.88	79.27	75.31	72.67	69.36	67.38	66.06	64.74
1.4	6.71	99.58	91.92	87.33	84.26	80.43	78.13	76.60	75.07
1.5	7.19	114.22	105.43	100.16	96.65	92.25	89.62	87.86	86.10
1.6	7.67	129.77	119.78	113.80	109.80	104.81	101.82	99.82	97.82
1.7	8.14	146.22	134.97	128.23	123.73	118.10	114.73	112.48	110.23
1.8	8.62	163.58	150.99	143.44	138.41	132.12	128.35	125.83	123.31
1.9	9.10	181.82	167.84	159.44	153.85	146.86	142.66	139.86	137.07
2.0	9.58	200.95	185.49	176.22	170.03	162.31	157.67	154.58	151.49

Pressure Loss Tables

Pressure Loss Per 100 Feet

⅜" Wirsbo hePEX and Uponor AquaPEX (100% Water)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.1	0.33	0.07	0.07	0.06	0.06	0.06	0.06	0.05	0.05
0.2	0.67	0.26	0.24	0.22	0.22	0.21	0.20	0.20	0.19
0.3	1.00	0.92	0.85	0.81	0.78	0.75	0.72	0.71	0.70
0.4	1.33	1.95	1.80	1.71	1.65	1.58	1.53	1.50	1.47
0.5	1.67	3.33	3.07	2.92	2.82	2.69	2.61	2.56	2.51
0.6	2.00	5.03	4.64	4.41	4.26	4.06	3.95	3.87	3.79
0.7	2.33	7.05	6.50	6.18	5.96	5.69	5.53	5.42	5.31
0.8	2.67	9.37	8.65	8.22	7.93	7.57	7.35	7.21	7.07
0.9	3.00	12.00	11.08	10.52	10.15	9.69	9.41	9.23	9.05
1.0	3.33	14.92	13.77	13.08	12.62	12.05	11.71	11.48	11.25
1.1	3.67	18.13	16.74	15.90	15.34	14.64	14.23	13.95	13.67
1.2	4.00	21.63	19.96	18.97	18.30	17.47	16.97	16.64	16.30
1.3	4.34	25.40	23.45	22.28	21.50	20.52	19.93	19.54	19.15
1.4	4.67	29.46	27.19	25.83	24.93	23.79	23.11	22.66	22.21
1.5	5.00	33.79	31.19	29.63	28.59	27.29	26.51	25.99	25.47
1.6	5.34	38.39	35.43	33.66	32.48	31.01	30.12	29.53	28.94
1.7	5.67	43.26	39.93	37.93	36.60	34.94	33.94	33.27	32.61
1.8	6.00	48.39	44.67	42.43	40.95	39.08	37.97	37.22	36.48
1.9	6.34	53.79	49.65	47.17	45.51	43.44	42.20	41.37	40.55
2.0	6.67	59.45	54.87	52.13	50.30	48.01	46.64	45.73	44.81
2.1	7.00	65.36	60.33	57.32	55.31	52.79	51.28	50.28	49.27
2.2	7.34	71.54	66.03	62.73	60.53	57.78	56.13	55.03	53.93
2.3	7.67	77.97	71.97	68.37	65.97	62.97	61.17	59.97	58.77
2.4	8.00	84.65	78.14	74.23	71.63	68.37	66.42	65.11	63.81
2.5	8.34	91.58	84.54	80.31	77.49	73.97	71.86	70.45	69.04
3.0	10.00	98.77	91.17	86.61	83.57	79.77	77.49	75.97	74.46

Pressure Loss Per 100 Feet

⅜" Wirsbo hePEX and Uponor AquaPEX (30% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.1	0.33	0.09	0.08	0.08	0.07	0.07	0.07	0.07	0.07
0.2	0.67	0.32	0.29	0.28	0.27	0.26	0.25	0.24	0.24
0.3	1.00	1.14	1.06	1.00	0.97	0.92	0.90	0.88	0.86
0.4	1.33	2.42	2.24	2.13	2.05	1.96	1.90	1.86	1.83
0.5	1.67	4.13	3.81	3.62	3.49	3.33	3.24	3.17	3.11
0.6	2.00	6.24	5.76	5.47	5.28	5.04	4.89	4.80	4.70
0.7	2.33	8.74	8.07	7.66	7.39	7.06	6.86	6.72	6.59
0.8	2.67	11.62	10.73	10.19	9.83	9.39	9.12	8.94	8.76
0.9	3.00	14.88	13.73	13.05	12.59	12.02	11.67	11.45	11.22
1.0	3.33	18.50	17.08	16.22	15.65	14.94	14.52	14.23	13.95
1.1	3.67	22.48	20.75	19.72	19.02	18.16	17.64	17.29	16.95
1.2	4.00	26.82	24.75	23.52	22.69	21.66	21.04	20.63	20.22
1.3	4.34	31.50	29.08	27.62	26.66	25.44	24.72	24.23	23.75
1.4	4.67	36.53	33.72	32.03	30.91	29.50	28.66	28.10	27.54
1.5	5.00	41.90	38.67	36.74	35.45	33.84	32.87	32.23	31.58
1.6	5.34	47.60	43.94	41.74	40.28	38.45	37.35	36.62	35.88
1.7	5.67	53.64	49.51	47.04	45.39	43.32	42.08	41.26	40.43
1.8	6.00	60.00	55.39	52.62	50.77	48.46	47.08	46.16	45.23
1.9	6.34	66.70	61.57	58.49	56.43	53.87	52.33	51.30	50.28
2.0	6.67	73.71	68.04	64.64	62.37	59.54	57.84	56.70	55.57
2.1	7.00	81.05	74.81	71.07	68.58	65.46	63.59	62.35	61.10
2.2	7.34	88.71	81.88	77.79	75.06	71.65	69.60	68.23	66.87
2.3	7.67	96.68	89.24	84.78	81.80	78.09	75.85	74.37	72.88
2.4	8.00	104.96	96.89	92.05	88.82	84.78	82.36	80.74	79.13
2.5	8.34	113.56	104.83	99.59	96.09	91.72	89.10	87.36	85.61
3.0	10.00	122.47	113.05	107.40	103.63	98.92	96.09	94.21	92.32

Pressure Loss Tables

Pressure Loss Per 100 Feet

⅜" Wirsbo hePEX and Uponor AquaPEX (40% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.1	0.33	0.09	0.09	0.08	0.08	0.08	0.07	0.07	0.07
0.2	0.67	0.34	0.31	0.30	0.29	0.28	0.27	0.26	0.26
0.3	1.00	1.23	1.13	1.08	1.04	0.99	0.96	0.94	0.93
0.4	1.33	2.60	2.40	2.28	2.20	2.10	2.04	2.00	1.96
0.5	1.67	4.43	4.09	3.88	3.75	3.58	3.47	3.41	3.34
0.6	2.00	6.69	6.17	5.87	5.66	5.40	5.25	5.15	5.04
0.7	2.33	9.37	8.65	8.22	7.93	7.57	7.35	7.21	7.07
0.8	2.67	12.47	11.51	10.93	10.55	10.07	9.78	9.59	9.40
0.9	3.00	15.96	14.73	13.99	13.50	12.89	12.52	12.28	12.03
1.0	3.33	19.84	18.32	17.40	16.79	16.03	15.57	15.26	14.96
1.1	3.67	24.11	22.26	21.15	20.40	19.48	18.92	18.55	18.18
1.2	4.00	28.76	26.55	25.22	24.34	23.23	22.57	22.13	21.68
1.3	4.34	33.79	31.19	29.63	28.59	27.29	26.51	25.99	25.47
1.4	4.67	39.18	36.17	34.36	33.15	31.65	30.74	30.14	29.54
1.5	5.00	44.94	41.48	39.41	38.02	36.30	35.26	34.57	33.88
1.6	5.34	51.06	47.13	44.77	43.20	41.24	40.06	39.27	38.49
1.7	5.67	57.53	53.10	50.45	48.68	46.47	45.14	44.25	43.37
1.8	6.00	64.36	59.41	56.44	54.46	51.98	50.50	49.51	48.52
1.9	6.34	71.54	66.03	62.73	60.53	57.78	56.13	55.03	53.93
2.0	6.67	79.06	72.98	69.33	66.90	63.86	62.03	60.82	59.60
2.1	7.00	86.93	80.24	76.23	73.56	70.21	68.21	66.87	65.53
2.2	7.34	95.14	87.82	83.43	80.51	76.85	74.65	73.19	71.72
2.3	7.67	103.69	95.72	90.93	87.74	83.75	81.36	79.77	78.17
2.4	8.00	112.58	103.92	98.73	95.26	90.93	88.33	86.60	84.87
2.5	8.34	121.80	112.44	106.81	103.07	98.38	95.57	93.70	91.82
3.0	10.00	131.36	121.26	115.19	111.15	106.10	103.07	101.05	99.03

Pressure Loss Per 100 Feet

⅜" Wirsbo hePEX and Uponor AquaPEX (50% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.1	0.33	0.10	0.09	0.09	0.08	0.08	0.08	0.08	0.07
0.2	0.67	0.36	0.33	0.31	0.30	0.29	0.28	0.28	0.27
0.3	1.00	1.29	1.19	1.13	1.09	1.04	1.01	0.99	0.97
0.4	1.33	2.74	2.53	2.40	2.32	2.21	2.15	2.11	2.06
0.5	1.67	4.66	4.30	4.09	3.94	3.76	3.66	3.58	3.51
0.6	2.00	7.04	6.50	6.17	5.96	5.69	5.52	5.42	5.31
0.7	2.33	9.87	9.11	8.65	8.35	7.97	7.74	7.59	7.44
0.8	2.67	13.12	12.11	11.51	11.10	10.60	10.30	10.09	9.89
0.9	3.00	16.80	15.51	14.73	14.21	13.57	13.18	12.92	12.66
1.0	3.33	20.89	19.28	18.32	17.67	16.87	16.39	16.07	15.75
1.1	3.67	25.38	23.43	22.26	21.48	20.50	19.92	19.53	19.14
1.2	4.00	30.28	27.95	26.55	25.62	24.46	23.76	23.29	22.82
1.3	4.34	35.57	32.83	31.19	30.09	28.73	27.91	27.36	26.81
1.4	4.67	41.24	38.07	36.17	34.90	33.31	32.36	31.73	31.09
1.5	5.00	47.30	43.66	41.48	40.03	38.21	37.11	36.39	35.66
1.6	5.34	53.74	49.61	47.13	45.47	43.41	42.17	41.34	40.51
1.7	5.67	60.56	55.90	53.10	51.24	48.91	47.51	46.58	45.65
1.8	6.00	67.75	62.53	59.41	57.32	54.72	53.15	52.11	51.07
1.9	6.34	75.30	69.51	66.03	63.72	60.82	59.08	57.92	56.77
2.0	6.67	83.22	76.82	72.98	70.42	67.22	65.30	64.02	62.74
2.1	7.00	91.51	84.47	80.24	77.43	73.91	71.80	70.39	68.98
2.2	7.34	100.15	92.45	87.82	84.74	80.89	78.58	77.04	75.50
2.3	7.67	109.15	100.76	95.72	92.36	88.16	85.64	83.96	82.28
2.4	8.00	118.51	109.39	103.92	100.28	95.72	92.98	91.16	89.34
2.5	8.34	128.22	118.35	112.44	108.49	103.56	100.60	98.63	96.65
3.0	10.00	138.27	127.64	121.26	117.00	111.68	108.49	106.36	104.24

Pressure Loss Tables

Pressure Loss Per 100 Feet

½" Wirsbo hePEX and Uponor AquaPEX (100% Water)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.1	0.18	0.06	0.05	0.05	0.05	0.05	0.05	0.04	0.04
0.2	0.36	0.21	0.19	0.18	0.18	0.17	0.16	0.16	0.16
0.3	0.54	0.44	0.41	0.39	0.37	0.36	0.35	0.34	0.33
0.4	0.72	0.75	0.70	0.66	0.64	0.61	0.59	0.58	0.57
0.5	0.91	1.14	1.05	1.00	0.96	0.92	0.89	0.88	0.86
0.6	1.09	1.59	1.47	1.40	1.35	1.29	1.25	1.23	1.20
0.7	1.27	2.12	1.96	1.86	1.79	1.71	1.66	1.63	1.60
0.8	1.45	2.72	2.51	2.38	2.30	2.19	2.13	2.09	2.05
0.9	1.63	3.38	3.12	2.96	2.86	2.73	2.65	2.60	2.55
1.0	1.81	4.10	3.79	3.60	3.47	3.31	3.22	3.16	3.09
1.1	1.99	4.89	4.52	4.29	4.14	3.95	3.84	3.77	3.69
1.2	2.17	5.75	5.31	5.04	4.86	4.64	4.51	4.42	4.33
1.3	2.35	6.67	6.15	5.85	5.64	5.38	5.23	5.13	5.03
1.4	2.53	7.65	7.06	6.71	6.47	6.18	6.00	5.88	5.76
1.5	2.72	8.69	8.02	7.62	7.35	7.02	6.82	6.68	6.55
1.6	2.90	9.79	9.04	8.58	8.28	7.91	7.68	7.53	7.38
1.7	3.08	10.95	10.11	9.60	9.27	8.85	8.59	8.42	8.26
1.8	3.26	12.17	11.24	10.67	10.30	9.83	9.55	9.36	9.18
1.9	3.44	13.45	12.42	11.80	11.38	10.87	10.56	10.35	10.14
2.0	3.62	14.79	13.65	12.97	12.52	11.95	11.61	11.38	11.15
2.1	3.80	16.19	14.94	14.20	13.70	13.08	12.70	12.45	12.20
2.2	3.98	17.64	16.29	15.47	14.93	14.25	13.84	13.57	13.30
2.3	4.16	19.16	17.68	16.80	16.21	15.47	15.03	14.74	14.44
2.4	4.35	20.73	19.13	18.18	17.54	16.74	16.26	15.94	15.62
2.5	4.53	22.35	20.63	19.60	18.91	18.05	17.54	17.19	16.85
3.0	5.43	31.32	28.91	27.46	26.50	25.30	24.57	24.09	23.61
3.5	6.34	41.65	38.45	36.53	35.25	33.64	32.68	32.04	31.40
4.0	7.24	53.33	49.22	46.76	45.12	43.07	41.84	41.02	40.20
4.5	8.15	66.31	61.21	58.15	56.11	53.56	52.03	51.01	49.99
5.0	9.05	80.58	74.38	70.66	68.18	65.08	63.22	61.98	60.74
5.5	9.96	96.12	88.72	84.29	81.33	77.63	75.42	73.94	72.46
6.0	10.86	112.90	104.22	99.01	95.53	91.19	88.59	86.85	85.11

Pressure Loss Per 100 Feet

½" Wirsbo hePEX and Uponor AquaPEX (30% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.1	0.18	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.05
0.2	0.36	0.26	0.24	0.23	0.22	0.21	0.20	0.20	0.20
0.3	0.54	0.55	0.51	0.48	0.46	0.44	0.43	0.42	0.41
0.4	0.72	0.93	0.86	0.82	0.79	0.75	0.73	0.72	0.70
0.5	0.91	1.41	1.30	1.24	1.19	1.14	1.11	1.09	1.06
0.6	1.09	1.98	1.83	1.73	1.67	1.60	1.55	1.52	1.49
0.7	1.27	2.63	2.43	2.31	2.23	2.12	2.06	2.02	1.98
0.8	1.45	3.37	3.11	2.95	2.85	2.72	2.64	2.59	2.54
0.9	1.63	4.19	3.86	3.67	3.54	3.38	3.29	3.22	3.16
1.0	1.81	5.09	4.70	4.46	4.31	4.11	3.99	3.91	3.84
1.1	1.99	6.07	5.60	5.32	5.14	4.90	4.76	4.67	4.58
1.2	2.17	7.13	6.58	6.25	6.03	5.76	5.59	5.48	5.37
1.3	2.35	8.27	7.63	7.25	7.00	6.68	6.49	6.36	6.23
1.4	2.53	9.48	8.75	8.31	8.02	7.66	7.44	7.29	7.15
1.5	2.72	10.77	9.94	9.45	9.12	8.70	8.45	8.29	8.12
1.6	2.90	12.14	11.21	10.64	10.27	9.80	9.52	9.34	9.15
1.7	3.08	13.58	12.53	11.91	11.49	10.97	10.65	10.45	10.24
1.8	3.26	15.09	13.93	13.24	12.77	12.19	11.84	11.61	11.38
1.9	3.44	16.68	15.40	14.63	14.12	13.47	13.09	12.83	12.58
2.0	3.62	18.34	16.93	16.09	15.52	14.82	14.39	14.11	13.83
2.1	3.80	20.08	18.53	17.60	16.99	16.21	15.75	15.44	15.13
2.2	3.98	21.88	20.20	19.19	18.51	17.67	17.17	16.83	16.49
2.3	4.16	23.75	21.93	20.83	20.10	19.19	18.64	18.27	17.91
2.4	4.35	25.70	23.72	22.54	21.75	20.76	20.17	19.77	19.37
2.5	4.53	27.72	25.58	24.31	23.45	22.39	21.75	21.32	20.89
3.0	5.43	38.84	35.85	34.06	32.86	31.37	30.47	29.87	29.28
3.5	6.34	51.65	47.68	45.29	43.70	41.72	40.53	39.73	38.94
4.0	7.24	66.12	61.04	57.99	55.95	53.41	51.88	50.87	49.85
4.5	8.15	82.22	75.90	72.10	69.57	66.41	64.51	63.25	61.98
5.0	9.05	99.92	92.23	87.62	84.55	80.70	78.40	76.86	75.32
5.5	9.96	119.19	110.02	104.52	100.85	96.27	93.52	91.68	89.85
6.0	10.86	140.00	129.23	122.77	118.46	113.08	109.85	107.69	105.54

Pressure Loss Tables

Pressure Loss Per 100 Feet

½" Wirsbo hePEX and Uponor AquaPEX (40% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.1	0.18	0.08	0.07	0.07	0.07	0.06	0.06	0.06	0.06
0.2	0.36	0.28	0.26	0.24	0.24	0.22	0.22	0.21	0.21
0.3	0.54	0.59	0.54	0.52	0.50	0.48	0.46	0.45	0.44
0.4	0.72	1.00	0.92	0.88	0.85	0.81	0.79	0.77	0.76
0.5	0.91	1.51	1.40	1.33	1.28	1.22	1.19	1.16	1.14
0.6	1.09	2.12	1.96	1.86	1.79	1.71	1.66	1.63	1.60
0.7	1.27	2.82	2.60	2.47	2.39	2.28	2.21	2.17	2.13
0.8	1.45	3.61	3.33	3.17	3.06	2.92	2.83	2.78	2.72
0.9	1.63	4.49	4.15	3.94	3.80	3.63	3.52	3.45	3.39
1.0	1.81	5.46	5.04	4.79	4.62	4.41	4.28	4.20	4.11
1.1	1.99	6.51	6.01	5.71	5.51	5.26	5.11	5.01	4.91
1.2	2.17	7.65	7.06	6.71	6.47	6.18	6.00	5.88	5.76
1.3	2.35	8.87	8.18	7.78	7.50	7.16	6.96	6.82	6.68
1.4	2.53	10.17	9.39	8.92	8.61	8.21	7.98	7.82	7.67
1.5	2.72	11.55	10.67	10.13	9.78	9.33	9.07	8.89	8.71
1.6	2.90	13.02	12.02	11.42	11.02	10.52	10.22	10.02	9.81
1.7	3.08	14.57	13.44	12.77	12.32	11.76	11.43	11.20	10.98
1.8	3.26	16.19	14.94	14.20	13.70	13.08	12.70	12.45	12.20
1.9	3.44	17.89	16.52	15.69	15.14	14.45	14.04	13.76	13.49
2.0	3.62	19.67	18.16	17.25	16.65	15.89	15.44	15.13	14.83
2.1	3.80	21.53	19.88	18.88	18.22	17.39	16.89	16.56	16.23
2.2	3.98	23.47	21.66	20.58	19.86	18.95	18.41	18.05	17.69
2.3	4.16	25.48	23.52	22.34	21.56	20.58	19.99	19.60	19.21
2.4	4.35	27.57	25.45	24.17	23.33	22.26	21.63	21.20	20.78
2.5	4.53	29.73	27.44	26.07	25.15	24.01	23.33	22.87	22.41
3.0	5.43	41.65	38.45	36.53	35.25	33.64	32.68	32.04	31.40
3.5	6.34	55.40	51.14	48.58	46.88	44.75	43.47	42.62	41.76
4.0	7.24	70.92	65.47	62.20	60.01	57.29	55.65	54.56	53.47
4.5	8.15	88.19	81.41	77.34	74.62	71.23	69.20	67.84	66.48
5.0	9.05	107.17	98.93	93.98	90.68	86.56	84.09	82.44	80.79
5.5	9.96	127.84	118.00	112.10	108.17	103.25	100.30	98.34	96.37
6.0	10.86	150.16	138.61	131.68	127.06	121.29	117.82	115.51	113.20

Pressure Loss Per 100 Feet

½" Wirsbo hePEX and Uponor AquaPEX (50% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.1	0.18	0.08	0.07	0.07	0.07	0.07	0.06	0.06	0.06
0.2	0.36	0.29	0.27	0.26	0.25	0.24	0.23	0.23	0.22
0.3	0.54	0.62	0.57	0.54	0.52	0.50	0.49	0.48	0.47
0.4	0.72	1.05	0.97	0.92	0.89	0.85	0.83	0.81	0.79
0.5	0.91	1.59	1.47	1.40	1.35	1.29	1.25	1.23	1.20
0.6	1.09	2.23	2.06	1.96	1.89	1.80	1.75	1.72	1.68
0.7	1.27	2.97	2.74	2.60	2.51	2.40	2.33	2.28	2.24
0.8	1.45	3.80	3.51	3.33	3.22	3.07	2.98	2.92	2.87
0.9	1.63	4.73	4.36	4.15	4.00	3.82	3.71	3.64	3.56
1.0	1.81	5.74	5.30	5.04	4.86	4.64	4.51	4.42	4.33
1.1	1.99	6.85	6.33	6.01	5.80	5.53	5.38	5.27	5.17
1.2	2.17	8.05	7.43	7.06	6.81	6.50	6.32	6.19	6.07
1.3	2.35	9.33	8.62	8.18	7.90	7.54	7.32	7.18	7.04
1.4	2.53	10.71	9.88	9.39	9.06	8.65	8.40	8.23	8.07
1.5	2.72	12.16	11.23	10.67	10.29	9.82	9.54	9.36	9.17
1.6	2.90	13.71	12.65	12.02	11.60	11.07	10.75	10.54	10.33
1.7	3.08	15.33	14.15	13.44	12.97	12.38	12.03	11.79	11.56
1.8	3.26	17.04	15.73	14.94	14.42	13.76	13.37	13.11	12.85
1.9	3.44	18.83	17.39	16.52	15.94	15.21	14.78	14.49	14.20
2.0	3.62	20.71	19.12	18.16	17.52	16.73	16.25	15.93	15.61
2.1	3.80	22.67	20.92	19.88	19.18	18.31	17.78	17.44	17.09
2.2	3.98	24.70	22.80	21.66	20.90	19.95	19.38	19.00	18.62
2.3	4.16	26.82	24.76	23.52	22.69	21.66	21.04	20.63	20.22
2.4	4.35	29.02	26.78	25.45	24.55	23.44	22.77	22.32	21.87
2.5	4.53	31.29	28.89	27.44	26.48	25.28	24.55	24.07	23.59
3.0	5.43	43.85	40.47	38.45	37.10	35.41	34.40	33.73	33.05
3.5	6.34	58.32	53.83	51.14	49.34	47.10	45.76	44.86	43.96
4.0	7.24	74.66	68.91	65.47	63.17	60.30	58.58	57.43	56.28
4.5	8.15	92.83	85.69	81.41	78.55	74.98	72.84	71.41	69.98
5.0	9.05	112.81	104.13	98.93	95.46	91.12	88.51	86.78	85.04
5.5	9.96	134.56	124.21	118.00	113.86	108.69	105.58	103.51	101.44
6.0	10.86	158.07	145.91	138.61	133.75	127.67	124.02	121.59	119.16

Pressure Loss Tables

Pressure Loss Per 100 Feet

⅝" Wirsbo hePEX and Uponor AquaPEX (100% Water)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.2	0.25	0.08	0.08	0.07	0.07	0.07	0.07	0.06	0.06
0.3	0.37	0.18	0.16	0.15	0.15	0.14	0.14	0.14	0.13
0.4	0.50	0.30	0.28	0.26	0.25	0.24	0.24	0.23	0.23
0.5	0.62	0.45	0.42	0.40	0.38	0.37	0.36	0.35	0.34
0.6	0.74	0.63	0.59	0.56	0.54	0.51	0.50	0.49	0.48
0.7	0.87	0.84	0.78	0.74	0.71	0.68	0.66	0.65	0.64
0.8	0.99	1.08	1.00	0.95	0.91	0.87	0.85	0.83	0.81
0.9	1.12	1.34	1.24	1.18	1.14	1.09	1.05	1.03	1.01
1.0	1.24	1.63	1.51	1.43	1.38	1.32	1.28	1.26	1.23
1.1	1.36	1.95	1.80	1.71	1.65	1.57	1.53	1.50	1.47
1.2	1.49	2.29	2.11	2.01	1.94	1.85	1.80	1.76	1.73
1.3	1.61	2.65	2.45	2.33	2.25	2.14	2.08	2.04	2.00
1.4	1.74	3.04	2.81	2.67	2.58	2.46	2.39	2.34	2.29
1.5	1.86	3.46	3.19	3.03	2.93	2.79	2.71	2.66	2.61
1.6	1.98	3.90	3.60	3.42	3.30	3.15	3.06	3.00	2.94
1.7	2.11	4.36	4.02	3.82	3.69	3.52	3.42	3.35	3.29
1.8	2.23	4.85	4.47	4.25	4.10	3.91	3.80	3.73	3.65
1.9	2.36	5.36	4.94	4.70	4.53	4.33	4.20	4.12	4.04
2.0	2.48	5.89	5.44	5.16	4.98	4.76	4.62	4.53	4.44
2.1	2.60	6.44	5.95	5.65	5.45	5.21	5.06	4.96	4.86
2.2	2.73	7.02	6.48	6.16	5.94	5.67	5.51	5.40	5.29
2.3	2.85	7.63	7.04	6.69	6.45	6.16	5.98	5.87	5.75
2.4	2.98	8.25	7.62	7.24	6.98	6.66	6.47	6.35	6.22
2.5	3.10	8.90	8.21	7.80	7.53	7.19	6.98	6.84	6.71
3.0	3.72	12.47	11.51	10.93	10.55	10.07	9.78	9.59	9.40
3.5	4.34	16.58	15.31	14.54	14.03	13.39	13.01	12.76	12.50
4.0	4.96	21.23	19.60	18.62	17.96	17.15	16.66	16.33	16.00
4.5	5.58	26.40	24.37	23.15	22.34	21.32	20.71	20.30	19.90
5.0	6.20	32.08	29.61	28.13	27.14	25.91	25.17	24.67	24.18
5.5	6.82	38.26	35.32	33.55	32.38	30.90	30.02	29.43	28.84
6.0	7.44	44.94	41.49	39.41	38.03	36.30	35.26	34.57	33.88
6.5	8.06	52.12	48.11	45.70	44.10	42.10	40.89	40.09	39.29
7.0	8.68	59.78	55.18	52.42	50.58	48.28	46.90	45.98	45.06
7.5	9.30	67.91	62.69	59.56	57.47	54.85	53.29	52.24	51.20
8.0	9.92	76.53	70.64	67.11	64.75	61.81	60.04	58.87	57.69
8.5	10.54	85.61	79.02	75.07	72.44	69.15	67.17	65.85	64.54

Pressure Loss Per 100 Feet

⅝" Wirsbo hePEX and Uponor AquaPEX (30% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.2	0.25	0.10	0.10	0.09	0.09	0.08	0.08	0.08	0.08
0.3	0.37	0.22	0.20	0.19	0.18	0.18	0.17	0.17	0.16
0.4	0.50	0.37	0.34	0.33	0.31	0.30	0.29	0.29	0.28
0.5	0.62	0.56	0.52	0.49	0.48	0.45	0.44	0.43	0.42
0.6	0.74	0.79	0.73	0.69	0.67	0.64	0.62	0.61	0.59
0.7	0.87	1.05	0.97	0.92	0.89	0.85	0.82	0.81	0.79
0.8	0.99	1.34	1.24	1.18	1.13	1.08	1.05	1.03	1.01
0.9	1.12	1.67	1.54	1.46	1.41	1.35	1.31	1.28	1.26
1.0	1.24	2.03	1.87	1.78	1.71	1.64	1.59	1.56	1.53
1.1	1.36	2.42	2.23	2.12	2.04	1.95	1.90	1.86	1.82
1.2	1.49	2.84	2.62	2.49	2.40	2.29	2.23	2.18	2.14
1.3	1.61	3.29	3.04	2.89	2.78	2.66	2.58	2.53	2.48
1.4	1.74	3.77	3.48	3.31	3.19	3.05	2.96	2.90	2.85
1.5	1.86	4.29	3.96	3.76	3.63	3.46	3.36	3.30	3.23
1.6	1.98	4.83	4.46	4.24	4.09	3.90	3.79	3.72	3.64
1.7	2.11	5.41	4.99	4.74	4.57	4.37	4.24	4.16	4.08
1.8	2.23	6.01	5.55	5.27	5.08	4.85	4.71	4.62	4.53
1.9	2.36	6.64	6.13	5.82	5.62	5.36	5.21	5.11	5.01
2.0	2.48	7.30	6.74	6.40	6.18	5.90	5.73	5.62	5.50
2.1	2.60	7.99	7.38	7.01	6.76	6.45	6.27	6.15	6.02
2.2	2.73	8.71	8.04	7.64	7.37	7.03	6.83	6.70	6.57
2.3	2.85	9.46	8.73	8.29	8.00	7.64	7.42	7.27	7.13
2.4	2.98	10.23	9.44	8.97	8.66	8.26	8.03	7.87	7.71
2.5	3.10	11.03	10.18	9.68	9.34	8.91	8.66	8.49	8.32
3.0	3.72	15.46	14.27	13.56	13.08	12.49	12.13	11.89	11.65
3.5	4.34	20.56	18.98	18.03	17.40	16.61	16.13	15.82	15.50
4.0	4.96	26.32	24.30	23.08	22.27	21.26	20.65	20.25	19.84
4.5	5.58	32.73	30.21	28.70	27.70	26.44	25.68	25.18	24.67
5.0	6.20	39.78	36.72	34.88	33.66	32.13	31.21	30.60	29.98
5.5	6.82	47.45	43.80	41.61	40.15	38.32	37.23	36.50	35.77
6.0	7.44	55.73	51.44	48.87	47.16	45.01	43.73	42.87	42.01
6.5	8.06	64.63	59.66	56.67	54.68	52.20	50.71	49.71	48.72
7.0	8.68	74.12	68.42	65.00	62.72	59.87	58.16	57.02	55.88
7.5	9.30	84.21	77.74	73.85	71.26	68.02	66.08	64.78	63.48
8.0	9.92	94.89	87.59	83.21	80.29	76.65	74.46	73.00	71.54
8.5	10.54	106.16	97.99	93.09	89.82	85.74	83.29	81.66	80.03

Pressure Loss Tables

Pressure Loss Per 100 Feet

⅝" Wirsbo hePEX and Uponor AquaPEX (40% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.2	0.25	0.11	0.10	0.10	0.09	0.09	0.09	0.09	0.08
0.3	0.37	0.23	0.22	0.21	0.20	0.19	0.18	0.18	0.18
0.4	0.50	0.40	0.37	0.35	0.34	0.32	0.31	0.31	0.30
0.5	0.62	0.60	0.56	0.53	0.51	0.49	0.47	0.46	0.45
0.6	0.74	0.84	0.78	0.74	0.71	0.68	0.66	0.65	0.64
0.7	0.87	1.12	1.04	0.98	0.95	0.91	0.88	0.86	0.85
0.8	0.99	1.44	1.33	1.26	1.22	1.16	1.13	1.11	1.08
0.9	1.12	1.79	1.65	1.57	1.51	1.44	1.40	1.38	1.35
1.0	1.24	2.17	2.01	1.91	1.84	1.75	1.70	1.67	1.64
1.1	1.36	2.59	2.39	2.27	2.19	2.09	2.03	1.99	1.95
1.2	1.49	3.04	2.81	2.67	2.58	2.46	2.39	2.34	2.29
1.3	1.61	3.53	3.26	3.10	2.99	2.85	2.77	2.72	2.66
1.4	1.74	4.05	3.74	3.55	3.43	3.27	3.18	3.11	3.05
1.5	1.86	4.60	4.25	4.03	3.89	3.72	3.61	3.54	3.47
1.6	1.98	5.18	4.78	4.55	4.39	4.19	4.07	3.99	3.91
1.7	2.11	5.80	5.35	5.08	4.91	4.68	4.55	4.46	4.37
1.8	2.23	6.44	5.95	5.65	5.45	5.21	5.06	4.96	4.86
1.9	2.36	7.12	6.57	6.25	6.03	5.75	5.59	5.48	5.37
2.0	2.48	7.83	7.23	6.87	6.63	6.33	6.14	6.02	5.90
2.1	2.60	8.57	7.91	7.52	7.25	6.92	6.73	6.59	6.46
2.2	2.73	9.34	8.62	8.19	7.90	7.55	7.33	7.19	7.04
2.3	2.85	10.14	9.36	8.89	8.58	8.19	7.96	7.80	7.65
2.4	2.98	10.97	10.13	9.62	9.29	8.86	8.61	8.44	8.27
2.5	3.10	11.83	10.92	10.38	10.01	9.56	9.29	9.10	8.92
3.0	3.72	16.58	15.31	14.54	14.03	13.39	13.01	12.76	12.50
3.5	4.34	22.05	20.36	19.34	18.66	17.81	17.30	16.96	16.62
4.0	4.96	28.23	26.06	24.76	23.89	22.80	22.15	21.72	21.28
4.5	5.58	35.11	32.41	30.79	29.71	28.36	27.55	27.01	26.47
5.0	6.20	42.66	39.38	37.41	36.10	34.46	33.47	32.82	32.16
5.5	6.82	50.89	46.97	44.63	43.06	41.10	39.93	39.15	38.36
6.0	7.44	59.78	55.18	52.42	50.58	48.28	46.90	45.98	45.06
6.5	8.06	69.32	63.99	60.79	58.65	55.99	54.39	53.32	52.25
7.0	8.68	79.50	73.39	69.72	67.27	64.21	62.38	61.16	59.93
7.5	9.30	90.33	83.38	79.21	76.43	72.96	70.87	69.48	68.09
8.0	9.92	101.78	93.95	89.25	86.12	82.21	79.86	78.29	76.73
8.5	10.54	113.86	105.10	99.85	96.34	91.96	89.34	87.59	85.83

Pressure Loss Per 100 Feet

⅝" Wirsbo hePEX and Uponor AquaPEX (50% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.2	0.25	0.12	0.11	0.10	0.10	0.09	0.09	0.09	0.09
0.3	0.37	0.25	0.23	0.22	0.21	0.20	0.19	0.19	0.19
0.4	0.50	0.42	0.39	0.37	0.36	0.34	0.33	0.32	0.32
0.5	0.62	0.63	0.59	0.56	0.54	0.51	0.50	0.49	0.48
0.6	0.74	0.89	0.82	0.78	0.75	0.72	0.70	0.68	0.67
0.7	0.87	1.18	1.09	1.04	1.00	0.95	0.93	0.91	0.89
0.8	0.99	1.51	1.40	1.33	1.28	1.22	1.19	1.16	1.14
0.9	1.12	1.88	1.74	1.65	1.59	1.52	1.48	1.45	1.42
1.0	1.24	2.29	2.11	2.01	1.93	1.85	1.79	1.76	1.72
1.1	1.36	2.73	2.52	2.39	2.31	2.20	2.14	2.10	2.06
1.2	1.49	3.20	2.96	2.81	2.71	2.59	2.51	2.46	2.42
1.3	1.61	3.72	3.43	3.26	3.14	3.00	2.92	2.86	2.80
1.4	1.74	4.26	3.93	3.74	3.61	3.44	3.34	3.28	3.21
1.5	1.86	4.84	4.47	4.25	4.10	3.91	3.80	3.72	3.65
1.6	1.98	5.46	5.04	4.78	4.62	4.41	4.28	4.20	4.11
1.7	2.11	6.10	5.63	5.35	5.16	4.93	4.79	4.69	4.60
1.8	2.23	6.78	6.26	5.95	5.74	5.48	5.32	5.22	5.11
1.9	2.36	7.50	6.92	6.57	6.34	6.06	5.88	5.77	5.65
2.0	2.48	8.24	7.61	7.23	6.98	6.66	6.47	6.34	6.21
2.1	2.60	9.02	8.33	7.91	7.63	7.29	7.08	6.94	6.80
2.2	2.73	9.83	9.08	8.62	8.32	7.94	7.72	7.56	7.41
2.3	2.85	10.68	9.86	9.36	9.03	8.62	8.38	8.21	8.05
2.4	2.98	11.55	10.66	10.13	9.77	9.33	9.06	8.89	8.71
2.5	3.10	12.46	11.50	10.92	10.54	10.06	9.77	9.58	9.39
3.0	3.72	17.45	16.11	15.31	14.77	14.10	13.69	13.43	13.16
3.5	4.34	23.21	21.43	20.36	19.64	18.75	18.21	17.86	17.50
4.0	4.96	29.72	27.43	26.06	25.15	24.00	23.32	22.86	22.40
4.5	5.58	36.95	34.11	32.41	31.27	29.85	29.00	28.43	27.86
5.0	6.20	44.91	41.45	39.38	38.00	36.27	35.24	34.54	33.85
5.5	6.82	53.57	49.45	46.97	45.33	43.27	42.03	41.21	40.38
6.0	7.44	62.92	58.08	55.18	53.24	50.82	49.37	48.40	47.43
6.5	8.06	72.97	67.35	63.99	61.74	58.93	57.25	56.13	55.00
7.0	8.68	83.69	77.25	73.39	70.81	67.59	65.66	64.37	63.09
7.5	9.30	95.08	87.77	83.38	80.45	76.80	74.60	73.14	71.68
8.0	9.92	107.14	98.90	93.95	90.66	86.53	84.06	82.41	80.77
8.5	10.54	119.85	110.63	105.10	101.41	96.81	94.04	92.20	90.35

Pressure Loss Tables

Pressure Loss Per 100 Feet

¾" Wirsbo hePEX and Uponor AquaPEX (100% Water)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.4	0.36	0.14	0.13	0.12	0.12	0.11	0.11	0.11	0.11
0.5	0.45	0.21	0.20	0.19	0.18	0.17	0.17	0.16	0.16
0.6	0.54	0.30	0.27	0.26	0.25	0.24	0.23	0.23	0.22
0.7	0.64	0.40	0.36	0.35	0.33	0.32	0.31	0.30	0.30
0.8	0.73	0.51	0.47	0.44	0.43	0.41	0.40	0.39	0.38
0.9	0.82	0.63	0.58	0.55	0.53	0.51	0.49	0.48	0.47
1.0	0.91	0.76	0.71	0.67	0.65	0.62	0.60	0.59	0.58
1.1	1.00	0.91	0.84	0.80	0.77	0.74	0.72	0.70	0.69
1.2	1.09	1.07	0.99	0.94	0.91	0.86	0.84	0.82	0.81
1.3	1.18	1.24	1.15	1.09	1.05	1.00	0.97	0.96	0.94
1.4	1.27	1.42	1.31	1.25	1.20	1.15	1.12	1.10	1.07
1.5	1.36	1.62	1.49	1.42	1.37	1.31	1.27	1.24	1.22
1.6	1.45	1.82	1.68	1.60	1.54	1.47	1.43	1.40	1.37
1.7	1.54	2.04	1.88	1.79	1.73	1.65	1.60	1.57	1.54
1.8	1.63	2.27	2.09	1.99	1.92	1.83	1.78	1.74	1.71
1.9	1.72	2.51	2.31	2.20	2.12	2.02	1.97	1.93	1.89
2.0	1.81	2.75	2.54	2.42	2.33	2.22	2.16	2.12	2.08
2.1	1.91	3.01	2.78	2.64	2.55	2.44	2.37	2.32	2.27
2.2	2.00	3.29	3.03	2.88	2.78	2.65	2.58	2.53	2.48
2.3	2.09	3.57	3.29	3.13	3.02	2.88	2.80	2.74	2.69
2.4	2.18	3.86	3.56	3.38	3.27	3.12	3.03	2.97	2.91
2.5	2.27	4.16	3.84	3.65	3.52	3.36	3.27	3.20	3.14
3.0	2.72	5.83	5.38	5.11	4.94	4.71	4.58	4.49	4.40
3.5	3.18	7.76	7.16	6.80	6.56	6.27	6.09	5.97	5.85
4.0	3.63	9.93	9.17	8.71	8.40	8.02	7.79	7.64	7.49
4.5	4.08	12.35	11.40	10.83	10.45	9.97	9.69	9.50	9.31
5.0	4.54	15.01	13.85	13.16	12.70	12.12	11.77	11.54	11.31
5.5	4.99	17.90	16.52	15.70	15.15	14.46	14.04	13.77	13.49
6.0	5.44	21.03	19.41	18.44	17.79	16.98	16.50	16.17	15.85
6.5	5.90	24.38	22.51	21.38	20.63	19.69	19.13	18.75	18.38
7.0	6.35	27.96	25.81	24.52	23.66	22.59	21.94	21.51	21.08
7.5	6.80	31.77	29.33	27.86	26.88	25.66	24.93	24.44	23.95
8.0	7.26	35.80	33.05	31.39	30.29	28.92	28.09	27.54	26.99
8.5	7.71	40.05	36.97	35.12	33.89	32.35	31.42	30.81	30.19
9.0	8.17	44.52	41.09	39.04	37.67	35.96	34.93	34.24	33.56
9.5	8.62	49.20	45.41	43.14	41.63	39.74	38.60	37.85	37.09
10.0	9.07	54.10	49.93	47.44	45.77	43.69	42.44	41.61	40.78
10.5	9.53	59.21	54.65	51.92	50.10	47.82	46.45	45.54	44.63
11.0	9.98	64.53	59.56	56.59	54.60	52.12	50.63	49.64	48.64
11.5	10.43	70.06	64.67	61.44	59.28	56.59	54.97	53.89	52.81

Pressure Loss Per 100 Feet

¾" Wirsbo hePEX and Uponor AquaPEX (30% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.4	0.36	0.17	0.16	0.15	0.15	0.14	0.14	0.13	0.13
0.5	0.45	0.26	0.24	0.23	0.22	0.21	0.21	0.20	0.20
0.6	0.54	0.37	0.34	0.32	0.31	0.30	0.29	0.28	0.28
0.7	0.64	0.49	0.45	0.43	0.41	0.40	0.38	0.38	0.37
0.8	0.73	0.63	0.58	0.55	0.53	0.51	0.49	0.48	0.47
0.9	0.82	0.78	0.72	0.68	0.66	0.63	0.61	0.60	0.59
1.0	0.91	0.95	0.87	0.83	0.80	0.77	0.74	0.73	0.71
1.1	1.00	1.13	1.04	0.99	0.96	0.91	0.89	0.87	0.85
1.2	1.09	1.33	1.23	1.16	1.12	1.07	1.04	1.02	1.00
1.3	1.18	1.54	1.42	1.35	1.30	1.24	1.21	1.18	1.16
1.4	1.27	1.77	1.63	1.55	1.49	1.43	1.39	1.36	1.33
1.5	1.36	2.01	1.85	1.76	1.70	1.62	1.57	1.54	1.51
1.6	1.45	2.26	2.09	1.98	1.91	1.83	1.77	1.74	1.70
1.7	1.54	2.53	2.33	2.22	2.14	2.04	1.98	1.95	1.91
1.8	1.63	2.81	2.59	2.46	2.38	2.27	2.21	2.16	2.12
1.9	1.72	3.11	2.87	2.72	2.63	2.51	2.44	2.39	2.34
2.0	1.81	3.42	3.15	3.00	2.89	2.76	2.68	2.63	2.57
2.1	1.91	3.74	3.45	3.28	3.16	3.02	2.93	2.88	2.82
2.2	2.00	4.07	3.76	3.57	3.45	3.29	3.20	3.13	3.07
2.3	2.09	4.42	4.08	3.88	3.74	3.57	3.47	3.40	3.33
2.4	2.18	4.79	4.42	4.20	4.05	3.87	3.76	3.68	3.61
2.5	2.27	5.16	4.76	4.53	4.37	4.17	4.05	3.97	3.89
3.0	2.72	7.23	6.68	6.34	6.12	5.84	5.67	5.56	5.45
3.5	3.18	9.62	8.88	8.43	8.14	7.77	7.55	7.40	7.25
4.0	3.63	12.31	11.37	10.80	10.42	9.95	9.66	9.47	9.28
4.5	4.08	15.31	14.13	13.43	12.96	12.37	12.01	11.78	11.54
5.0	4.54	18.61	17.18	16.32	15.74	15.03	14.60	14.31	14.03
5.5	4.99	22.20	20.49	19.46	18.78	17.93	17.41	17.07	16.73
6.0	5.44	26.07	24.07	22.86	22.06	21.06	20.46	20.06	19.65
6.5	5.90	30.23	27.91	26.51	25.58	24.42	23.72	23.26	22.79
7.0	6.35	34.68	32.01	30.41	29.34	28.01	27.21	26.67	26.14
7.5	6.80	39.40	36.37	34.55	33.34	31.82	30.91	30.30	29.70
8.0	7.26	44.39	40.98	38.93	37.56	35.86	34.83	34.15	33.46
8.5	7.71	49.66	45.84	43.55	42.02	40.11	38.96	38.20	37.44
9.0	8.17	55.20	50.95	48.41	46.71	44.58	43.31	42.46	41.61
9.5	8.62	61.01	56.31	53.50	51.62	49.27	47.87	46.93	45.99
10.0	9.07	67.08	61.92	58.82	56.76	54.18	52.63	51.60	50.57
10.5	9.53	73.42	67.77	64.38	62.12	59.30	57.60	56.47	55.34
11.0	9.98	80.01	73.86	70.17	67.70	64.63	62.78	61.55	60.32
11.5	10.43	86.87	80.19	76.18	73.51	70.17	68.16	66.82	65.49

Pressure Loss Tables

Pressure Loss Per 100 Feet

¾" Wirsbo hePEX and Uponor AquaPEX (40% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.4	0.36	0.19	0.17	0.16	0.16	0.15	0.15	0.14	0.14
0.5	0.45	0.28	0.26	0.25	0.24	0.23	0.22	0.22	0.21
0.6	0.54	0.40	0.36	0.35	0.33	0.32	0.31	0.30	0.30
0.7	0.64	0.53	0.48	0.46	0.44	0.42	0.41	0.40	0.40
0.8	0.73	0.67	0.62	0.59	0.57	0.54	0.53	0.52	0.51
0.9	0.82	0.84	0.77	0.73	0.71	0.68	0.66	0.64	0.63
1.0	0.91	1.02	0.94	0.89	0.86	0.82	0.80	0.78	0.77
1.1	1.00	1.21	1.12	1.06	1.03	0.98	0.95	0.93	0.91
1.2	1.09	1.42	1.31	1.25	1.20	1.15	1.12	1.10	1.07
1.3	1.18	1.65	1.52	1.45	1.40	1.33	1.30	1.27	1.24
1.4	1.27	1.89	1.75	1.66	1.60	1.53	1.49	1.46	1.43
1.5	1.36	2.15	1.99	1.89	1.82	1.74	1.69	1.66	1.62
1.6	1.45	2.42	2.24	2.13	2.05	1.96	1.90	1.87	1.83
1.7	1.54	2.71	2.50	2.38	2.30	2.19	2.13	2.09	2.04
1.8	1.63	3.01	2.78	2.64	2.55	2.44	2.37	2.32	2.27
1.9	1.72	3.33	3.08	2.92	2.82	2.69	2.61	2.56	2.51
2.0	1.81	3.66	3.38	3.21	3.10	2.96	2.87	2.82	2.76
2.1	1.91	4.01	3.70	3.52	3.39	3.24	3.15	3.08	3.02
2.2	2.00	4.37	4.03	3.83	3.70	3.53	3.43	3.36	3.29
2.3	2.09	4.74	4.38	4.16	4.01	3.83	3.72	3.65	3.58
2.4	2.18	5.13	4.74	4.50	4.34	4.15	4.03	3.95	3.87
2.5	2.27	5.54	5.11	4.85	4.68	4.47	4.34	4.26	4.17
3.0	2.72	7.76	7.16	6.80	6.56	6.27	6.09	5.97	5.85
3.5	3.18	10.32	9.52	9.05	8.73	8.33	8.09	7.94	7.78
4.0	3.63	13.21	12.19	11.58	11.18	10.67	10.36	10.16	9.96
4.5	4.08	16.42	15.16	14.40	13.90	13.27	12.89	12.63	12.38
5.0	4.54	19.96	18.42	17.50	16.89	16.12	15.66	15.35	15.05
5.5	4.99	23.81	21.97	20.88	20.14	19.23	18.68	18.31	17.95
6.0	5.44	27.96	25.81	24.52	23.66	22.59	21.94	21.51	21.08
6.5	5.90	32.43	29.93	28.44	27.44	26.19	25.44	24.94	24.45
7.0	6.35	37.19	34.33	32.61	31.47	30.04	29.18	28.61	28.04
7.5	6.80	42.26	39.00	37.05	35.75	34.13	33.15	32.50	31.85
8.0	7.26	47.61	43.95	41.75	40.29	38.46	37.36	36.63	35.89
8.5	7.71	53.27	49.17	46.71	45.07	43.02	41.79	40.97	40.15
9.0	8.17	59.21	54.65	51.92	50.10	47.82	46.45	45.54	44.63
9.5	8.62	65.43	60.40	57.38	55.37	52.85	51.34	50.33	49.33
10.0	9.07	71.95	66.41	63.09	60.88	58.11	56.45	55.34	54.24
10.5	9.53	78.74	72.69	69.05	66.63	63.60	61.78	60.57	59.36
11.0	9.98	85.82	79.22	75.26	72.62	69.32	67.34	66.02	64.70
11.5	10.43	93.18	86.01	81.71	78.84	75.26	73.11	71.67	70.24

Pressure Loss Per 100 Feet

¾" Wirsbo hePEX and Uponor AquaPEX (50% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.4	0.36	0.20	0.18	0.17	0.17	0.16	0.15	0.15	0.15
0.5	0.45	0.30	0.27	0.26	0.25	0.24	0.23	0.23	0.22
0.6	0.54	0.42	0.38	0.36	0.35	0.34	0.33	0.32	0.31
0.7	0.64	0.55	0.51	0.48	0.47	0.45	0.43	0.43	0.42
0.8	0.73	0.71	0.65	0.62	0.60	0.57	0.56	0.54	0.53
0.9	0.82	0.88	0.81	0.77	0.74	0.71	0.69	0.68	0.66
1.0	0.91	1.07	0.99	0.94	0.91	0.86	0.84	0.82	0.81
1.1	1.00	1.28	1.18	1.12	1.08	1.03	1.00	0.98	0.96
1.2	1.09	1.50	1.38	1.31	1.27	1.21	1.18	1.15	1.13
1.3	1.18	1.74	1.60	1.52	1.47	1.40	1.36	1.34	1.31
1.4	1.27	1.99	1.84	1.75	1.69	1.61	1.56	1.53	1.50
1.5	1.36	2.26	2.09	1.99	1.92	1.83	1.78	1.74	1.71
1.6	1.45	2.55	2.36	2.24	2.16	2.06	2.00	1.96	1.92
1.7	1.54	2.86	2.64	2.50	2.42	2.31	2.24	2.20	2.15
1.8	1.63	3.17	2.93	2.78	2.69	2.56	2.49	2.44	2.39
1.9	1.72	3.51	3.24	3.08	2.97	2.83	2.75	2.70	2.64
2.0	1.81	3.86	3.56	3.38	3.26	3.11	3.03	2.97	2.91
2.1	1.91	4.22	3.90	3.70	3.57	3.41	3.31	3.25	3.18
2.2	2.00	4.60	4.25	4.03	3.89	3.72	3.61	3.54	3.47
2.3	2.09	4.99	4.61	4.38	4.23	4.03	3.92	3.84	3.77
2.4	2.18	5.40	4.99	4.74	4.57	4.36	4.24	4.16	4.07
2.5	2.27	5.83	5.38	5.11	4.93	4.71	4.57	4.48	4.39
3.0	2.72	8.17	7.54	7.16	6.91	6.60	6.41	6.28	6.16
3.5	3.18	10.86	10.02	9.52	9.19	8.77	8.52	8.35	8.19
4.0	3.63	13.90	12.83	12.19	11.76	11.23	10.91	10.69	10.48
4.5	4.08	17.29	15.96	15.16	14.63	13.96	13.56	13.30	13.03
5.0	4.54	21.01	19.39	18.42	17.78	16.97	16.48	16.16	15.84
5.5	4.99	25.06	23.13	21.97	21.20	20.24	19.66	19.28	18.89
6.0	5.44	29.44	27.17	25.81	24.91	23.78	23.10	22.64	22.19
6.5	5.90	34.13	31.51	29.93	28.88	27.57	26.78	26.26	25.73
7.0	6.35	39.15	36.14	34.33	33.13	31.62	30.72	30.12	29.51
7.5	6.80	44.48	41.06	39.00	37.64	35.93	34.90	34.21	33.53
8.0	7.26	50.12	46.26	43.95	42.41	40.48	39.32	38.55	37.78
8.5	7.71	56.07	51.76	49.17	47.44	45.29	43.99	43.13	42.27
9.0	8.17	62.32	57.53	54.65	52.73	50.34	48.90	47.94	46.98
9.5	8.62	68.88	63.58	60.40	58.28	55.63	54.04	52.98	51.92
10.0	9.07	75.73	69.91	66.41	64.08	61.17	59.42	58.26	57.09
10.5	9.53	82.89	76.51	72.69	70.14	66.95	65.04	63.76	62.49
11.0	9.98	90.34	83.39	79.22	76.44	72.97	70.88	69.49	68.10
11.5	10.43	98.08	90.54	86.01	82.99	79.22	76.96	75.45	73.94

Pressure Loss Tables

Pressure Loss Per 100 Feet

1" Wirsbo hePEX and Uponor AquaPEX (100% Water)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.5	0.27	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.05
0.6	0.33	0.09	0.08	0.08	0.07	0.07	0.07	0.07	0.07
0.7	0.38	0.12	0.11	0.10	0.10	0.09	0.09	0.09	0.09
0.8	0.44	0.15	0.14	0.13	0.13	0.12	0.12	0.11	0.11
0.9	0.49	0.19	0.17	0.16	0.16	0.15	0.15	0.14	0.14
1.0	0.55	0.23	0.21	0.20	0.19	0.18	0.18	0.17	0.17
1.1	0.60	0.27	0.25	0.24	0.23	0.22	0.21	0.21	0.20
1.2	0.66	0.32	0.29	0.28	0.27	0.26	0.25	0.24	0.24
1.3	0.71	0.37	0.34	0.32	0.31	0.30	0.29	0.28	0.28
1.4	0.77	0.42	0.39	0.37	0.36	0.34	0.33	0.32	0.32
1.5	0.82	0.48	0.44	0.42	0.40	0.39	0.38	0.37	0.36
2.0	1.10	0.81	0.75	0.71	0.69	0.66	0.64	0.63	0.61
2.5	1.37	1.23	1.14	1.08	1.04	0.99	0.97	0.95	0.93
3.0	1.65	1.72	1.59	1.51	1.46	1.39	1.35	1.33	1.30
3.5	1.92	2.29	2.12	2.01	1.94	1.85	1.80	1.76	1.73
4.0	2.20	2.94	2.71	2.57	2.48	2.37	2.30	2.26	2.21
4.5	2.47	3.65	3.37	3.20	3.09	2.95	2.86	2.81	2.75
5.0	2.75	4.44	4.09	3.89	3.75	3.58	3.48	3.41	3.34
6.0	3.30	6.22	5.74	5.45	5.26	5.02	4.88	4.78	4.69
7.0	3.85	8.27	7.63	7.25	6.99	6.68	6.49	6.36	6.23
8.0	4.40	10.58	9.77	9.28	8.95	8.55	8.30	8.14	7.98
9.0	4.95	13.16	12.15	11.54	11.13	10.63	10.32	10.12	9.92
10.0	5.50	15.99	14.76	14.02	13.53	12.92	12.55	12.30	12.05
11.0	6.05	19.07	17.61	16.73	16.14	15.41	14.97	14.67	14.38
12.0	6.60	22.41	20.68	19.65	18.96	18.10	17.58	17.24	16.89
13.0	7.15	25.98	23.98	22.78	21.98	20.99	20.39	19.99	19.59
14.0	7.70	29.80	27.51	26.13	25.22	24.07	23.38	22.92	22.46
15.0	8.25	33.86	31.25	29.69	28.65	27.35	26.56	26.04	25.52
16.0	8.80	38.15	35.22	33.45	32.28	30.81	29.93	29.35	28.76
17.0	9.35	42.68	39.40	37.43	36.11	34.47	33.49	32.83	32.17
18.0	9.90	47.44	43.79	41.60	40.14	38.32	37.22	36.49	35.76
19.0	10.45	52.43	48.40	45.98	44.36	42.35	41.14	40.33	39.52
20.0	11.00	57.65	53.21	50.55	48.78	46.56	45.23	44.34	43.46

Pressure Loss Per 100 Feet

1" Wirsbo hePEX and Uponor AquaPEX (30% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.5	0.27	0.08	0.07	0.07	0.07	0.06	0.06	0.06	0.06
0.6	0.33	0.11	0.10	0.10	0.09	0.09	0.09	0.08	0.08
0.7	0.38	0.14	0.13	0.13	0.12	0.12	0.11	0.11	0.11
0.8	0.44	0.19	0.17	0.16	0.16	0.15	0.15	0.14	0.14
0.9	0.49	0.23	0.21	0.20	0.20	0.19	0.18	0.18	0.17
1.0	0.55	0.28	0.26	0.25	0.24	0.23	0.22	0.22	0.21
1.1	0.60	0.33	0.31	0.29	0.28	0.27	0.26	0.26	0.25
1.2	0.66	0.39	0.36	0.34	0.33	0.32	0.31	0.30	0.30
1.3	0.71	0.46	0.42	0.40	0.39	0.37	0.36	0.35	0.34
1.4	0.77	0.52	0.48	0.46	0.44	0.42	0.41	0.40	0.39
1.5	0.82	0.59	0.55	0.52	0.50	0.48	0.47	0.46	0.45
2.0	1.10	1.01	0.93	0.89	0.85	0.82	0.79	0.78	0.76
2.5	1.37	1.53	1.41	1.34	1.29	1.23	1.20	1.17	1.15
3.0	1.65	2.14	1.97	1.87	1.81	1.73	1.68	1.64	1.61
3.5	1.92	2.84	2.62	2.49	2.41	2.30	2.23	2.19	2.14
4.0	2.20	3.64	3.36	3.19	3.08	2.94	2.86	2.80	2.74
4.5	2.47	4.53	4.18	3.97	3.83	3.66	3.55	3.48	3.41
5.0	2.75	5.50	5.08	4.82	4.65	4.44	4.32	4.23	4.15
6.0	3.30	7.71	7.11	6.76	6.52	6.22	6.05	5.93	5.81
7.0	3.85	10.25	9.46	8.99	8.67	8.28	8.04	7.88	7.73
8.0	4.40	13.12	12.11	11.51	11.10	10.60	10.30	10.09	9.89
9.0	4.95	16.32	15.06	14.31	13.81	13.18	12.80	12.55	12.30
10.0	5.50	19.83	18.30	17.39	16.78	16.02	15.56	15.25	14.95
11.0	6.05	23.65	21.83	20.74	20.01	19.10	18.56	18.19	17.83
12.0	6.60	27.78	25.65	24.36	23.51	22.44	21.80	21.37	20.94
13.0	7.15	32.22	29.74	28.25	27.26	26.02	25.28	24.78	24.29
14.0	7.70	36.95	34.11	32.40	31.27	29.85	28.99	28.42	27.86
15.0	8.25	41.98	38.75	36.82	35.52	33.91	32.94	32.29	31.65
16.0	8.80	47.31	43.67	41.48	40.03	38.21	37.12	36.39	35.66
17.0	9.35	52.92	48.85	46.41	44.78	42.74	41.52	40.71	39.89
18.0	9.90	58.82	54.30	51.58	49.77	47.51	46.15	45.25	44.34
19.0	10.45	65.01	60.01	57.01	55.01	52.51	51.01	50.01	49.01
20.0	11.00	71.48	65.98	62.68	60.49	57.74	56.09	54.99	53.89

Pressure Loss Tables

Pressure Loss Per 100 Feet

1" Wirsbo hePEX and Uponor AquaPEX (40% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.5	0.27	0.08	0.08	0.07	0.07	0.07	0.07	0.06	0.06
0.6	0.33	0.12	0.11	0.10	0.10	0.09	0.09	0.09	0.09
0.7	0.38	0.16	0.14	0.14	0.13	0.13	0.12	0.12	0.12
0.8	0.44	0.20	0.18	0.17	0.17	0.16	0.16	0.15	0.15
0.9	0.49	0.25	0.23	0.22	0.21	0.20	0.19	0.19	0.19
1.0	0.55	0.30	0.28	0.26	0.25	0.24	0.24	0.23	0.23
1.1	0.60	0.36	0.33	0.31	0.30	0.29	0.28	0.28	0.27
1.2	0.66	0.42	0.39	0.37	0.36	0.34	0.33	0.32	0.32
1.3	0.71	0.49	0.45	0.43	0.41	0.39	0.38	0.38	0.37
1.4	0.77	0.56	0.52	0.49	0.47	0.45	0.44	0.43	0.42
1.5	0.82	0.64	0.59	0.56	0.54	0.51	0.50	0.49	0.48
2.0	1.10	1.08	1.00	0.95	0.92	0.87	0.85	0.83	0.82
2.5	1.37	1.64	1.51	1.44	1.38	1.32	1.28	1.26	1.23
3.0	1.65	2.29	2.12	2.01	1.94	1.85	1.80	1.76	1.73
3.5	1.92	3.05	2.82	2.67	2.58	2.46	2.39	2.35	2.30
4.0	2.20	3.90	3.60	3.42	3.30	3.15	3.06	3.00	2.94
4.5	2.47	4.85	4.48	4.26	4.11	3.92	3.81	3.73	3.66
5.0	2.75	5.90	5.45	5.17	4.99	4.77	4.63	4.54	4.45
6.0	3.30	8.27	7.63	7.25	6.99	6.68	6.49	6.36	6.23
7.0	3.85	10.99	10.15	9.64	9.30	8.88	8.63	8.46	8.29
8.0	4.40	14.07	12.99	12.34	11.91	11.37	11.04	10.83	10.61
9.0	4.95	17.50	16.16	15.35	14.81	14.14	13.73	13.46	13.19
10.0	5.50	21.27	19.63	18.65	18.00	17.18	16.69	16.36	16.03
11.0	6.05	25.37	23.42	22.25	21.47	20.49	19.90	19.51	19.12
12.0	6.60	29.80	27.51	26.13	25.22	24.07	23.38	22.92	22.46
13.0	7.15	34.56	31.90	30.30	29.24	27.91	27.11	26.58	26.05
14.0	7.70	39.63	36.58	34.76	33.54	32.01	31.10	30.49	29.88
15.0	8.25	45.03	41.57	39.49	38.10	36.37	35.33	34.64	33.95
16.0	8.80	50.74	46.84	44.49	42.93	40.98	39.81	39.03	38.25
17.0	9.35	56.76	52.40	49.78	48.03	45.85	44.54	43.66	42.79
18.0	9.90	63.09	58.24	55.33	53.39	50.96	49.50	48.53	47.56
19.0	10.45	69.73	64.37	61.15	59.00	56.32	54.71	53.64	52.57
20.0	11.00	76.67	70.77	67.23	64.88	61.93	60.16	58.98	57.80

Pressure Loss Per 100 Feet

1" Wirsbo hePEX and Uponor AquaPEX (50% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.5	0.27	0.09	0.08	0.08	0.07	0.07	0.07	0.07	0.07
0.6	0.33	0.12	0.11	0.11	0.10	0.10	0.10	0.09	0.09
0.7	0.38	0.16	0.15	0.14	0.14	0.13	0.13	0.13	0.12
0.8	0.44	0.21	0.19	0.18	0.18	0.17	0.16	0.16	0.16
0.9	0.49	0.26	0.24	0.23	0.22	0.21	0.20	0.20	0.20
1.0	0.55	0.32	0.29	0.28	0.27	0.26	0.25	0.24	0.24
1.1	0.60	0.38	0.35	0.33	0.32	0.30	0.30	0.29	0.28
1.2	0.66	0.44	0.41	0.39	0.37	0.36	0.35	0.34	0.33
1.3	0.71	0.51	0.47	0.45	0.43	0.41	0.40	0.40	0.39
1.4	0.77	0.59	0.54	0.52	0.50	0.48	0.46	0.45	0.44
1.5	0.82	0.67	0.62	0.59	0.57	0.54	0.53	0.52	0.50
2.0	1.10	1.14	1.05	1.00	0.96	0.92	0.89	0.88	0.86
2.5	1.37	1.72	1.59	1.51	1.46	1.39	1.35	1.33	1.30
3.0	1.65	2.41	2.23	2.12	2.04	1.95	1.89	1.86	1.82
3.5	1.92	3.21	2.96	2.82	2.72	2.59	2.52	2.47	2.42
4.0	2.20	4.11	3.79	3.60	3.48	3.32	3.22	3.16	3.10
4.5	2.47	5.11	4.72	4.48	4.32	4.13	4.01	3.93	3.85
5.0	2.75	6.21	5.73	5.45	5.25	5.02	4.87	4.78	4.68
6.0	3.30	8.70	8.03	7.63	7.36	7.03	6.83	6.69	6.56
7.0	3.85	11.57	10.68	10.15	9.79	9.35	9.08	8.90	8.72
8.0	4.40	14.82	13.68	12.99	12.54	11.97	11.62	11.40	11.17
9.0	4.95	18.42	17.01	16.16	15.59	14.88	14.45	14.17	13.89
10.0	5.50	22.39	20.67	19.63	18.94	18.08	17.57	17.22	16.88
11.0	6.05	26.70	24.65	23.42	22.60	21.57	20.95	20.54	20.13
12.0	6.60	31.37	28.96	27.51	26.54	25.34	24.61	24.13	23.65
13.0	7.15	36.37	33.58	31.90	30.78	29.38	28.54	27.98	27.42
14.0	7.70	41.72	38.51	36.58	35.30	33.70	32.73	32.09	31.45
15.0	8.25	47.40	43.75	41.57	40.11	38.28	37.19	36.46	35.73
16.0	8.80	53.41	49.30	46.84	45.19	43.14	41.91	41.08	40.26
17.0	9.35	59.75	55.15	52.40	50.56	48.26	46.88	45.96	45.04
18.0	9.90	66.41	61.30	58.24	56.20	53.64	52.11	51.09	50.07
19.0	10.45	73.40	67.75	64.37	62.11	59.28	57.59	56.46	55.33
20.0	11.00	80.71	74.50	70.77	68.29	65.19	63.32	62.08	60.84

Pressure Loss Tables

Pressure Loss Per 100 Feet

1¼" Wirsbo hePEX and Uponor AquaPEX (100% Water)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
1.0	0.37	0.08	0.08	0.07	0.07	0.07	0.07	0.07	0.06
1.5	0.55	0.18	0.17	0.16	0.15	0.15	0.14	0.14	0.14
2.0	0.74	0.31	0.28	0.27	0.26	0.25	0.24	0.24	0.23
2.5	0.92	0.46	0.43	0.41	0.39	0.37	0.36	0.36	0.35
3.0	1.10	0.65	0.60	0.57	0.55	0.52	0.51	0.50	0.49
3.5	1.29	0.86	0.80	0.76	0.73	0.70	0.68	0.66	0.65
4.0	1.47	1.10	1.02	0.97	0.93	0.89	0.87	0.85	0.83
4.5	1.65	1.37	1.27	1.20	1.16	1.11	1.08	1.06	1.03
5.0	1.84	1.67	1.54	1.46	1.41	1.35	1.31	1.28	1.26
6.0	2.21	2.34	2.16	2.05	1.98	1.89	1.83	1.80	1.76
7.0	2.57	3.11	2.87	2.72	2.63	2.51	2.44	2.39	2.34
8.0	2.94	3.98	3.67	3.49	3.37	3.21	3.12	3.06	3.00
9.0	3.31	4.95	4.57	4.34	4.19	4.00	3.88	3.81	3.73
10.0	3.68	6.01	5.55	5.27	5.09	4.86	4.72	4.62	4.53
11.0	4.04	7.17	6.62	6.29	6.07	5.79	5.63	5.52	5.41
12.0	4.41	8.42	7.77	7.39	7.13	6.80	6.61	6.48	6.35
13.0	4.78	9.77	9.02	8.56	8.26	7.89	7.66	7.51	7.36
14.0	5.15	11.20	10.34	9.82	9.48	9.05	8.79	8.62	8.44
15.0	5.52	12.73	11.75	11.16	10.77	10.28	9.99	9.79	9.59
16.0	5.88	14.34	13.24	12.58	12.13	11.58	11.25	11.03	10.81
17.0	6.25	16.04	14.81	14.07	13.57	12.96	12.59	12.34	12.09
18.0	6.62	17.83	16.46	15.64	15.09	14.40	13.99	13.72	13.44
19.0	6.99	19.71	18.19	17.28	16.68	15.92	15.46	15.16	14.86
20.0	7.35	21.67	20.00	19.00	18.34	17.50	17.00	16.67	16.34
21.0	7.72	23.72	21.89	20.80	20.07	19.16	18.61	18.24	17.88
22.0	8.09	25.85	23.86	22.67	21.87	20.88	20.28	19.88	19.49
23.0	8.46	28.06	25.91	24.61	23.75	22.67	22.02	21.59	21.16
24.0	8.83	30.36	28.03	26.63	25.69	24.52	23.82	23.36	22.89
25.0	9.19	32.74	30.23	28.71	27.71	26.45	25.69	25.19	24.68
26.0	9.56	35.21	32.50	30.88	29.79	28.44	27.63	27.08	26.54
27.0	9.93	37.76	34.85	33.11	31.95	30.49	29.62	29.04	28.46
28.0	10.30	40.38	37.28	35.41	34.17	32.62	31.69	31.06	30.44

Pressure Loss Per 100 Feet

1¼" Wirsbo hePEX and Uponor AquaPEX (30% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
1.0	0.37	0.11	0.10	0.09	0.09	0.09	0.08	0.08	0.08
1.5	0.55	0.22	0.21	0.20	0.19	0.18	0.17	0.17	0.17
2.0	0.74	0.38	0.35	0.33	0.32	0.31	0.30	0.29	0.29
2.5	0.92	0.57	0.53	0.50	0.49	0.46	0.45	0.44	0.43
3.0	1.10	0.80	0.74	0.70	0.68	0.65	0.63	0.62	0.61
3.5	1.29	1.07	0.99	0.94	0.90	0.86	0.84	0.82	0.81
4.0	1.47	1.37	1.26	1.20	1.16	1.11	1.07	1.05	1.03
4.5	1.65	1.70	1.57	1.49	1.44	1.37	1.33	1.31	1.28
5.0	1.84	2.07	1.91	1.81	1.75	1.67	1.62	1.59	1.56
6.0	2.21	2.90	2.67	2.54	2.45	2.34	2.27	2.23	2.18
7.0	2.57	3.85	3.56	3.38	3.26	3.11	3.02	2.96	2.90
8.0	2.94	4.93	4.55	4.33	4.17	3.98	3.87	3.79	3.72
9.0	3.31	6.13	5.66	5.38	5.19	4.95	4.81	4.72	4.62
10.0	3.68	7.45	6.88	6.54	6.31	6.02	5.85	5.73	5.62
11.0	4.04	8.89	8.21	7.80	7.52	7.18	6.98	6.84	6.70
12.0	4.41	10.44	9.64	9.16	8.84	8.44	8.19	8.03	7.87
13.0	4.78	12.11	11.18	10.62	10.25	9.78	9.50	9.32	9.13
14.0	5.15	13.89	12.82	12.18	11.75	11.22	10.90	10.68	10.47
15.0	5.52	15.78	14.57	13.84	13.35	12.75	12.38	12.14	11.90
16.0	5.88	17.78	16.41	15.59	15.05	14.36	13.95	13.68	13.41
17.0	6.25	19.89	18.36	17.44	16.83	16.07	15.61	15.30	15.00
18.0	6.62	22.11	20.41	19.39	18.71	17.86	17.35	17.01	16.67
19.0	6.99	24.44	22.56	21.43	20.68	19.74	19.17	18.80	18.42
20.0	7.35	26.87	24.80	23.56	22.74	21.70	21.08	20.67	20.26
21.0	7.72	29.41	27.15	25.79	24.88	23.75	23.07	22.62	22.17
22.0	8.09	32.05	29.59	28.11	27.12	25.89	25.15	24.66	24.16
23.0	8.46	34.80	32.12	30.52	29.45	28.11	27.30	26.77	26.23
24.0	8.83	37.65	34.75	33.02	31.86	30.41	29.54	28.96	28.38
25.0	9.19	40.60	37.48	35.61	34.36	32.80	31.86	31.23	30.61
26.0	9.56	43.66	40.30	38.29	36.94	35.26	34.26	33.58	32.91
27.0	9.93	46.82	43.22	41.05	39.61	37.81	36.73	36.01	35.29
28.0	10.30	50.07	46.22	43.91	42.37	40.44	39.29	38.52	37.75

Pressure Loss Tables

Pressure Loss Per 100 Feet

1¼" Wirsbo hePEX and Uponor AquaPEX (40% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
1.0	0.37	0.11	0.10	0.10	0.10	0.09	0.09	0.09	0.09
1.5	0.55	0.24	0.22	0.21	0.20	0.19	0.19	0.18	0.18
2.0	0.74	0.41	0.38	0.36	0.34	0.33	0.32	0.31	0.31
2.5	0.92	0.62	0.57	0.54	0.52	0.50	0.48	0.47	0.46
3.0	1.10	0.86	0.80	0.76	0.73	0.70	0.68	0.66	0.65
3.5	1.29	1.15	1.06	1.01	0.97	0.93	0.90	0.88	0.86
4.0	1.47	1.47	1.35	1.29	1.24	1.19	1.15	1.13	1.11
4.5	1.65	1.82	1.68	1.60	1.54	1.47	1.43	1.40	1.38
5.0	1.84	2.22	2.05	1.94	1.88	1.79	1.74	1.71	1.67
6.0	2.21	3.11	2.87	2.72	2.63	2.51	2.44	2.39	2.34
7.0	2.57	4.13	3.81	3.62	3.50	3.34	3.24	3.18	3.12
8.0	2.94	5.29	4.88	4.64	4.48	4.27	4.15	4.07	3.99
9.0	3.31	6.58	6.07	5.77	5.57	5.31	5.16	5.06	4.96
10.0	3.68	7.99	7.38	7.01	6.76	6.46	6.27	6.15	6.03
11.0	4.04	9.54	8.80	8.36	8.07	7.70	7.48	7.34	7.19
12.0	4.41	11.20	10.34	9.82	9.48	9.05	8.79	8.62	8.44
13.0	4.78	12.99	11.99	11.39	10.99	10.49	10.19	9.99	9.79
14.0	5.15	14.90	13.75	13.06	12.61	12.03	11.69	11.46	11.23
15.0	5.52	16.93	15.62	14.84	14.32	13.67	13.28	13.02	12.76
16.0	5.88	19.07	17.61	16.73	16.14	15.41	14.97	14.67	14.38
17.0	6.25	21.34	19.70	18.71	18.05	17.23	16.74	16.41	16.08
18.0	6.62	23.72	21.89	20.80	20.07	19.16	18.61	18.24	17.88
19.0	6.99	26.21	24.20	22.99	22.18	21.17	20.57	20.16	19.76
20.0	7.35	28.82	26.60	25.27	24.39	23.28	22.61	22.17	21.73
21.0	7.72	31.54	29.12	27.66	26.69	25.48	24.75	24.26	23.78
22.0	8.09	34.38	31.73	30.15	29.09	27.77	26.97	26.45	25.92
23.0	8.46	37.33	34.45	32.73	31.58	30.15	29.29	28.71	28.14
24.0	8.83	40.38	37.28	35.41	34.17	32.62	31.69	31.06	30.44
25.0	9.19	43.55	40.20	38.19	36.85	35.18	34.17	33.50	32.83
26.0	9.56	46.83	43.23	41.06	39.62	37.82	36.74	36.02	35.30
27.0	9.93	50.21	46.35	44.03	42.49	40.56	39.40	38.63	37.85
28.0	10.30	53.71	49.58	47.10	45.45	43.38	42.14	41.31	40.49

Pressure Loss Per 100 Feet

1¼" Wirsbo hePEX and Uponor AquaPEX (50% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
1.0	0.37	0.12	0.11	0.10	0.10	0.10	0.09	0.09	0.09
1.5	0.55	0.25	0.23	0.22	0.21	0.20	0.20	0.19	0.19
2.0	0.74	0.43	0.40	0.38	0.36	0.35	0.34	0.33	0.32
2.5	0.92	0.65	0.60	0.57	0.55	0.52	0.51	0.50	0.49
3.0	1.10	0.91	0.84	0.80	0.77	0.73	0.71	0.70	0.68
3.5	1.29	1.21	1.11	1.06	1.02	0.97	0.95	0.93	0.91
4.0	1.47	1.54	1.43	1.35	1.31	1.25	1.21	1.19	1.16
4.5	1.65	1.92	1.77	1.68	1.63	1.55	1.51	1.48	1.45
5.0	1.84	2.33	2.15	2.05	1.98	1.89	1.83	1.80	1.76
6.0	2.21	3.27	3.02	2.87	2.77	2.64	2.57	2.52	2.47
7.0	2.57	4.35	4.02	3.81	3.68	3.51	3.41	3.35	3.28
8.0	2.94	5.57	5.14	4.88	4.71	4.50	4.37	4.28	4.20
9.0	3.31	6.93	6.39	6.07	5.86	5.59	5.43	5.33	5.22
10.0	3.68	8.42	7.77	7.38	7.12	6.80	6.60	6.47	6.34
11.0	4.04	10.04	9.27	8.80	8.49	8.11	7.88	7.72	7.57
12.0	4.41	11.79	10.88	10.34	9.98	9.52	9.25	9.07	8.89
13.0	4.78	13.67	12.62	11.99	11.57	11.04	10.73	10.52	10.31
14.0	5.15	15.68	14.48	13.75	13.27	12.67	12.30	12.06	11.82
15.0	5.52	17.82	16.45	15.62	15.08	14.39	13.98	13.71	13.43
16.0	5.88	20.08	18.53	17.61	16.99	16.22	15.75	15.44	15.14
17.0	6.25	22.46	20.73	19.70	19.00	18.14	17.62	17.28	16.93
18.0	6.62	24.97	23.04	21.89	21.12	20.16	19.59	19.20	18.82
19.0	6.99	27.59	25.47	24.20	23.35	22.29	21.65	21.22	20.80
20.0	7.35	30.34	28.00	26.60	25.67	24.50	23.80	23.34	22.87
21.0	7.72	33.20	30.65	29.12	28.10	26.82	26.05	25.54	25.03
22.0	8.09	36.19	33.40	31.73	30.62	29.23	28.39	27.84	27.28
23.0	8.46	39.29	36.27	34.45	33.25	31.73	30.83	30.22	29.62
24.0	8.83	42.51	39.24	37.28	35.97	34.33	33.35	32.70	32.04
25.0	9.19	45.84	42.32	40.20	38.79	37.03	35.97	35.26	34.56
26.0	9.56	49.29	45.50	43.23	41.71	39.81	38.68	37.92	37.16
27.0	9.93	52.86	48.79	46.35	44.73	42.69	41.47	40.66	39.85
28.0	10.30	56.54	52.19	49.58	47.84	45.66	44.36	43.49	42.62

Pressure Loss Tables

Pressure Loss Per 100 Feet

1½" Wirsbo hePEX and Uponor AquaPEX (100% Water)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
3.0	0.79	0.29	0.27	0.25	0.24	0.23	0.23	0.22	0.22
3.5	0.92	0.38	0.36	0.34	0.33	0.31	0.30	0.30	0.29
4.0	1.06	0.49	0.45	0.43	0.42	0.40	0.39	0.38	0.37
4.5	1.19	0.61	0.57	0.54	0.52	0.49	0.48	0.47	0.46
5.0	1.32	0.74	0.69	0.65	0.63	0.60	0.58	0.57	0.56
6.0	1.58	1.04	0.96	0.91	0.88	0.84	0.82	0.80	0.79
7.0	1.85	1.39	1.28	1.22	1.17	1.12	1.09	1.07	1.05
8.0	2.11	1.78	1.64	1.56	1.50	1.43	1.39	1.37	1.34
9.0	2.38	2.21	2.04	1.94	1.87	1.78	1.73	1.70	1.66
10.0	2.64	2.68	2.48	2.35	2.27	2.17	2.11	2.06	2.02
11.0	2.90	3.20	2.95	2.81	2.71	2.59	2.51	2.46	2.41
12.0	3.17	3.76	3.47	3.30	3.18	3.04	2.95	2.89	2.83
13.0	3.43	4.36	4.03	3.82	3.69	3.52	3.42	3.35	3.29
14.0	3.70	5.00	4.62	4.39	4.23	4.04	3.92	3.85	3.77
15.0	3.96	5.68	5.24	4.98	4.81	4.59	4.46	4.37	4.28
16.0	4.22	6.40	5.91	5.61	5.42	5.17	5.02	4.93	4.83
17.0	4.49	7.16	6.61	6.28	6.06	5.79	5.62	5.51	5.40
18.0	4.75	7.96	7.35	6.98	6.74	6.43	6.25	6.12	6.00
19.0	5.02	8.80	8.12	7.72	7.45	7.11	6.90	6.77	6.63
20.0	5.28	9.67	8.93	8.48	8.19	7.81	7.59	7.44	7.29
21.0	5.54	10.59	9.77	9.29	8.96	8.55	8.31	8.15	7.98
22.0	5.81	11.54	10.65	10.12	9.76	9.32	9.05	8.88	8.70
23.0	6.07	12.53	11.57	10.99	10.60	10.12	9.83	9.64	9.45
24.0	6.34	13.56	12.51	11.89	11.47	10.95	10.64	10.43	10.22
25.0	6.60	14.62	13.49	12.82	12.37	11.81	11.47	11.25	11.02
26.0	6.86	15.72	14.51	13.78	13.30	12.70	12.33	12.09	11.85
27.0	7.13	16.86	15.56	14.78	14.26	13.61	13.23	12.97	12.71
28.0	7.39	18.03	16.64	15.81	15.26	14.56	14.15	13.87	13.59
29.0	7.66	19.24	17.76	16.87	16.28	15.54	15.09	14.80	14.50
30.0	7.92	20.48	18.91	17.96	17.33	16.54	16.07	15.76	15.44
31.0	8.18	21.76	20.09	19.09	18.42	17.58	17.08	16.74	16.41
32.0	8.45	23.08	21.31	20.24	19.53	18.64	18.11	17.76	17.40
33.0	8.71	24.43	22.55	21.43	20.67	19.73	19.17	18.80	18.42
34.0	8.97	25.82	23.83	22.64	21.85	20.86	20.26	19.86	19.47
35.0	9.24	27.24	25.15	23.89	23.05	22.00	21.38	20.96	20.54
36.0	9.50	28.70	26.49	25.17	24.29	23.18	22.52	22.08	21.64
37.0	9.77	30.19	27.87	26.48	25.55	24.39	23.69	23.23	22.76
38.0	10.03	31.72	29.28	27.82	26.84	25.62	24.89	24.40	23.91

Pressure Loss Per 100 Feet

1½" Wirsbo hePEX and Uponor AquaPEX (30% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
3.0	0.79	0.36	0.33	0.31	0.30	0.29	0.28	0.28	0.27
3.5	0.92	0.48	0.44	0.42	0.40	0.39	0.37	0.37	0.36
4.0	1.06	0.61	0.56	0.54	0.52	0.49	0.48	0.47	0.46
4.5	1.19	0.76	0.70	0.67	0.64	0.61	0.60	0.58	0.57
5.0	1.32	0.92	0.85	0.81	0.78	0.75	0.72	0.71	0.70
6.0	1.58	1.29	1.19	1.13	1.09	1.04	1.01	0.99	0.98
7.0	1.85	1.72	1.59	1.51	1.46	1.39	1.35	1.32	1.30
8.0	2.11	2.20	2.03	1.93	1.86	1.78	1.73	1.69	1.66
9.0	2.38	2.74	2.53	2.40	2.32	2.21	2.15	2.11	2.06
10.0	2.64	3.33	3.07	2.92	2.82	2.69	2.61	2.56	2.51
11.0	2.90	3.97	3.66	3.48	3.36	3.21	3.11	3.05	2.99
12.0	3.17	4.66	4.30	4.09	3.95	3.77	3.66	3.59	3.52
13.0	3.43	5.41	4.99	4.74	4.58	4.37	4.24	4.16	4.08
14.0	3.70	6.20	5.72	5.44	5.25	5.01	4.87	4.77	4.67
15.0	3.96	7.05	6.50	6.18	5.96	5.69	5.53	5.42	5.31
16.0	4.22	7.94	7.33	6.96	6.72	6.41	6.23	6.11	5.98
17.0	4.49	8.88	8.20	7.79	7.52	7.17	6.97	6.83	6.70
18.0	4.75	9.87	9.11	8.66	8.35	7.97	7.75	7.59	7.44
19.0	5.02	10.91	10.07	9.57	9.23	8.81	8.56	8.39	8.22
20.0	5.28	12.00	11.07	10.52	10.15	9.69	9.41	9.23	9.04
21.0	5.54	13.13	12.12	11.51	11.11	10.60	10.30	10.10	9.90
22.0	5.81	14.31	13.21	12.55	12.11	11.56	11.23	11.01	10.79
23.0	6.07	15.54	14.34	13.62	13.15	12.55	12.19	11.95	11.71
24.0	6.34	16.81	15.52	14.74	14.22	13.58	13.19	12.93	12.67
25.0	6.60	18.13	16.73	15.90	15.34	14.64	14.22	13.94	13.67
26.0	6.86	19.49	17.99	17.09	16.49	15.74	15.29	14.99	14.69
27.0	7.13	20.90	19.29	18.33	17.69	16.88	16.40	16.08	15.76
28.0	7.39	22.36	20.64	19.60	18.92	18.06	17.54	17.20	16.85
29.0	7.66	23.86	22.02	20.92	20.19	19.27	18.72	18.35	17.98
30.0	7.92	25.40	23.45	22.27	21.49	20.52	19.93	19.54	19.15
31.0	8.18	26.99	24.91	23.67	22.84	21.80	21.18	20.76	20.35
32.0	8.45	28.62	26.42	25.10	24.22	23.12	22.46	22.02	21.58
33.0	8.71	30.30	27.97	26.57	25.64	24.47	23.77	23.31	22.84
34.0	8.97	32.02	29.56	28.08	27.09	25.86	25.12	24.63	24.14
35.0	9.24	33.78	31.18	29.62	28.58	27.29	26.51	25.99	25.47
36.0	9.50	35.59	32.85	31.21	30.11	28.75	27.92	27.38	26.83
37.0	9.77	37.44	34.56	32.83	31.68	30.24	29.38	28.80	28.22
38.0	10.03	39.33	36.31	34.49	33.28	31.77	30.86	30.26	29.65

Pressure Loss Tables

Pressure Loss Per 100 Feet

1½" Wirsbo hePEX and Uponor AquaPEX (40% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
3.0	0.79	0.38	0.36	0.34	0.33	0.31	0.30	0.30	0.29
3.5	0.92	0.51	0.47	0.45	0.43	0.41	0.40	0.39	0.39
4.0	1.06	0.66	0.60	0.57	0.55	0.53	0.51	0.50	0.49
4.5	1.19	0.81	0.75	0.71	0.69	0.66	0.64	0.63	0.61
5.0	1.32	0.99	0.91	0.87	0.84	0.80	0.78	0.76	0.75
6.0	1.58	1.39	1.28	1.22	1.17	1.12	1.09	1.07	1.05
7.0	1.85	1.85	1.70	1.62	1.56	1.49	1.45	1.42	1.39
8.0	2.11	2.36	2.18	2.07	2.00	1.91	1.85	1.82	1.78
9.0	2.38	2.94	2.71	2.58	2.49	2.37	2.30	2.26	2.21
10.0	2.64	3.57	3.29	3.13	3.02	2.88	2.80	2.75	2.69
11.0	2.90	4.26	3.93	3.73	3.60	3.44	3.34	3.28	3.21
12.0	3.17	5.00	4.62	4.39	4.23	4.04	3.92	3.85	3.77
13.0	3.43	5.80	5.35	5.09	4.91	4.68	4.55	4.46	4.37
14.0	3.70	6.65	6.14	5.83	5.63	5.37	5.22	5.12	5.01
15.0	3.96	7.56	6.98	6.63	6.39	6.10	5.93	5.81	5.70
16.0	4.22	8.52	7.86	7.47	7.21	6.88	6.68	6.55	6.42
17.0	4.49	9.53	8.79	8.35	8.06	7.69	7.47	7.33	7.18
18.0	4.75	10.59	9.77	9.29	8.96	8.55	8.31	8.15	7.98
19.0	5.02	11.70	10.80	10.26	9.90	9.45	9.18	9.00	8.82
20.0	5.28	12.87	11.88	11.28	10.89	10.39	10.10	9.90	9.70
21.0	5.54	14.08	13.00	12.35	11.92	11.37	11.05	10.83	10.62
22.0	5.81	15.35	14.17	13.46	12.99	12.40	12.04	11.81	11.57
23.0	6.07	16.66	15.38	14.61	14.10	13.46	13.08	12.82	12.56
24.0	6.34	18.03	16.64	15.81	15.26	14.56	14.15	13.87	13.59
25.0	6.60	19.44	17.95	17.05	16.45	15.70	15.26	14.96	14.66
26.0	6.86	20.91	19.30	18.33	17.69	16.89	16.40	16.08	15.76
27.0	7.13	22.42	20.69	19.66	18.97	18.11	17.59	17.25	16.90
28.0	7.39	23.98	22.13	21.03	20.29	19.37	18.81	18.45	18.08
29.0	7.66	25.59	23.62	22.44	21.65	20.67	20.08	19.68	19.29
30.0	7.92	27.24	25.15	23.89	23.05	22.00	21.38	20.96	20.54
31.0	8.18	28.95	26.72	25.38	24.49	23.38	22.71	22.27	21.82
32.0	8.45	30.70	28.34	26.92	25.98	24.79	24.09	23.61	23.14
33.0	8.71	32.50	30.00	28.50	27.50	26.25	25.50	25.00	24.50
34.0	8.97	34.34	31.70	30.12	29.06	27.74	26.95	26.42	25.89
35.0	9.24	36.23	33.45	31.77	30.66	29.27	28.43	27.87	27.31
36.0	9.50	38.17	35.24	33.47	32.30	30.83	29.95	29.36	28.78
37.0	9.77	40.16	37.07	35.21	33.98	32.43	31.51	30.89	30.27
38.0	10.03	42.19	38.94	37.00	35.70	34.07	33.10	32.45	31.80

Pressure Loss Per 100 Feet

1½" Wirsbo hePEX and Uponor AquaPEX (50% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
3.0	0.79	0.41	0.37	0.36	0.34	0.33	0.32	0.31	0.31
3.5	0.92	0.54	0.50	0.47	0.46	0.44	0.42	0.41	0.41
4.0	1.06	0.69	0.64	0.60	0.58	0.56	0.54	0.53	0.52
4.5	1.19	0.86	0.79	0.75	0.73	0.69	0.67	0.66	0.65
5.0	1.32	1.04	0.96	0.91	0.88	0.84	0.82	0.80	0.79
6.0	1.58	1.46	1.35	1.28	1.24	1.18	1.15	1.12	1.10
7.0	1.85	1.94	1.79	1.70	1.64	1.57	1.52	1.49	1.46
8.0	2.11	2.49	2.30	2.18	2.10	2.01	1.95	1.91	1.87
9.0	2.38	3.09	2.85	2.71	2.62	2.50	2.43	2.38	2.33
10.0	2.64	3.76	3.47	3.29	3.18	3.03	2.95	2.89	2.83
11.0	2.90	4.48	4.14	3.93	3.79	3.62	3.52	3.45	3.38
12.0	3.17	5.26	4.86	4.62	4.45	4.25	4.13	4.05	3.97
13.0	3.43	6.10	5.64	5.35	5.17	4.93	4.79	4.70	4.60
14.0	3.70	7.00	6.46	6.14	5.92	5.66	5.49	5.39	5.28
15.0	3.96	7.95	7.34	6.98	6.73	6.43	6.24	6.12	6.00
16.0	4.22	8.96	8.27	7.86	7.58	7.24	7.03	6.90	6.76
17.0	4.49	10.03	9.26	8.79	8.48	8.10	7.87	7.71	7.56
18.0	4.75	11.15	10.29	9.77	9.43	9.00	8.75	8.57	8.40
19.0	5.02	12.32	11.37	10.80	10.42	9.95	9.67	9.48	9.29
20.0	5.28	13.54	12.50	11.88	11.46	10.94	10.63	10.42	10.21
21.0	5.54	14.82	13.68	13.00	12.54	11.97	11.63	11.40	11.18
22.0	5.81	16.16	14.91	14.17	13.67	13.05	12.68	12.43	12.18
23.0	6.07	17.54	16.19	15.38	14.84	14.17	13.76	13.49	13.22
24.0	6.34	18.98	17.52	16.64	16.06	15.33	14.89	14.60	14.31
25.0	6.60	20.47	18.89	17.95	17.32	16.53	16.06	15.74	15.43
26.0	6.86	22.01	20.31	19.30	18.62	17.78	17.27	16.93	16.59
27.0	7.13	23.60	21.78	20.69	19.97	19.06	18.52	18.15	17.79
28.0	7.39	25.24	23.30	22.13	21.36	20.39	19.80	19.42	19.03
29.0	7.66	26.93	24.86	23.62	22.79	21.75	21.13	20.72	20.30
30.0	7.92	28.68	26.47	25.15	24.27	23.16	22.50	22.06	21.62
31.0	8.18	30.47	28.13	26.72	25.78	24.61	23.91	23.44	22.97
32.0	8.45	32.31	29.83	28.34	27.34	26.10	25.35	24.86	24.36
33.0	8.71	34.21	31.58	30.00	28.94	27.63	26.84	26.31	25.79
34.0	8.97	36.15	33.37	31.70	30.59	29.20	28.36	27.81	27.25
35.0	9.24	38.14	35.21	33.45	32.27	30.81	29.93	29.34	28.75
36.0	9.50	40.18	37.09	35.24	34.00	32.45	31.53	30.91	30.29
37.0	9.77	42.27	39.02	37.07	35.77	34.14	33.17	32.52	31.87
38.0	10.03	44.41	40.99	38.94	37.58	35.87	34.84	34.16	33.48

Pressure Loss Tables

Pressure Loss Per 100 Feet

2" Wirsbo hePEX and Uponor AquaPEX (100% Water)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
9.0	1.39	0.59	0.55	0.52	0.50	0.48	0.47	0.46	0.45
10.0	1.54	0.72	0.67	0.63	0.61	0.58	0.57	0.56	0.54
11.0	1.69	0.86	0.80	0.76	0.73	0.70	0.68	0.66	0.65
12.0	1.85	1.01	0.93	0.89	0.86	0.82	0.79	0.78	0.76
13.0	2.00	1.17	1.08	1.03	0.99	0.95	0.92	0.90	0.89
14.0	2.16	1.35	1.24	1.18	1.14	1.09	1.06	1.04	1.02
15.0	2.31	1.53	1.41	1.34	1.29	1.24	1.20	1.18	1.15
16.0	2.46	1.72	1.59	1.51	1.46	1.39	1.35	1.33	1.30
17.0	2.62	1.93	1.78	1.69	1.63	1.56	1.51	1.48	1.45
18.0	2.77	2.14	1.98	1.88	1.81	1.73	1.68	1.65	1.62
19.0	2.92	2.37	2.19	2.08	2.01	1.91	1.86	1.82	1.79
20.0	3.08	2.61	2.41	2.28	2.20	2.10	2.04	2.00	1.96
21.0	3.23	2.85	2.63	2.50	2.41	2.30	2.24	2.19	2.15
22.0	3.39	3.11	2.87	2.73	2.63	2.51	2.44	2.39	2.34
23.0	3.54	3.37	3.11	2.96	2.86	2.73	2.65	2.60	2.54
24.0	3.69	3.65	3.37	3.20	3.09	2.95	2.86	2.81	2.75
25.0	3.85	3.94	3.63	3.45	3.33	3.18	3.09	3.03	2.97
26.0	4.00	4.23	3.91	3.71	3.58	3.42	3.32	3.26	3.19
27.0	4.16	4.54	4.19	3.98	3.84	3.67	3.56	3.49	3.42
28.0	4.31	4.86	4.48	4.26	4.11	3.92	3.81	3.73	3.66
29.0	4.46	5.18	4.78	4.54	4.38	4.18	4.07	3.99	3.91
30.0	4.62	5.52	5.09	4.84	4.67	4.46	4.33	4.24	4.16
31.0	4.77	5.86	5.41	5.14	4.96	4.73	4.60	4.51	4.42
32.0	4.93	6.22	5.74	5.45	5.26	5.02	4.88	4.78	4.69
33.0	5.08	6.58	6.07	5.77	5.57	5.31	5.16	5.06	4.96
34.0	5.23	6.95	6.42	6.10	5.88	5.62	5.46	5.35	5.24
35.0	5.39	7.34	6.77	6.43	6.21	5.93	5.76	5.64	5.53
36.0	5.54	7.73	7.13	6.78	6.54	6.24	6.06	5.95	5.83
37.0	5.70	8.13	7.51	7.13	6.88	6.57	6.38	6.25	6.13
38.0	5.85	8.54	7.89	7.49	7.23	6.90	6.70	6.57	6.44
39.0	6.00	8.96	8.27	7.86	7.58	7.24	7.03	6.89	6.76
40.0	6.16	9.39	8.67	8.24	7.95	7.59	7.37	7.23	7.08
41.0	6.31	9.83	9.08	8.62	8.32	7.94	7.71	7.56	7.41
42.0	6.47	10.28	9.49	9.01	8.70	8.30	8.07	7.91	7.75
43.0	6.62	10.74	9.91	9.42	9.09	8.67	8.42	8.26	8.09
44.0	6.77	11.20	10.34	9.82	9.48	9.05	8.79	8.62	8.45
45.0	6.93	11.68	10.78	10.24	9.88	9.43	9.16	8.98	8.80
46.0	7.08	12.16	11.23	10.67	10.29	9.82	9.54	9.36	9.17
47.0	7.24	12.66	11.68	11.10	10.71	10.22	9.93	9.74	9.54
48.0	7.39	13.16	12.15	11.54	11.14	10.63	10.33	10.12	9.92
49.0	7.54	13.67	12.62	11.99	11.57	11.04	10.73	10.52	10.31
50.0	7.70	14.19	13.10	12.45	12.01	11.46	11.14	10.92	10.70
52.0	8.00	15.26	14.09	13.38	12.91	12.33	11.97	11.74	11.50
54.0	8.31	16.36	15.11	14.35	13.85	13.22	12.84	12.59	12.34
56.0	8.62	17.50	16.16	15.35	14.81	14.14	13.73	13.46	13.20
58.0	8.93	18.68	17.24	16.38	15.80	15.09	14.65	14.37	14.08
60.0	9.24	19.89	18.36	17.44	16.83	16.06	15.60	15.30	14.99
62.0	9.54	21.13	19.51	18.53	17.88	17.07	16.58	16.25	15.93
64.0	9.85	22.41	20.68	19.65	18.96	18.10	17.58	17.24	16.89
66.0	10.16	23.72	21.90	20.80	20.07	19.16	18.61	18.25	17.88

Pressure Loss Per 100 Feet

2" Wirsbo hePEX and Uponor AquaPEX (30% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
9.0	1.39	0.74	0.68	0.65	0.62	0.60	0.58	0.57	0.56
10.0	1.54	0.90	0.83	0.79	0.76	0.72	0.70	0.69	0.68
11.0	1.69	1.07	0.99	0.94	0.90	0.86	0.84	0.82	0.81
12.0	1.85	1.26	1.16	1.10	1.06	1.01	0.99	0.97	0.95
13.0	2.00	1.46	1.34	1.28	1.23	1.18	1.14	1.12	1.10
14.0	2.16	1.67	1.54	1.46	1.41	1.35	1.31	1.28	1.26
15.0	2.31	1.90	1.75	1.66	1.61	1.53	1.49	1.46	1.43
16.0	2.46	2.14	1.97	1.87	1.81	1.73	1.68	1.64	1.61
17.0	2.62	2.39	2.21	2.10	2.02	1.93	1.88	1.84	1.80
18.0	2.77	2.66	2.45	2.33	2.25	2.15	2.09	2.05	2.00
19.0	2.92	2.94	2.71	2.58	2.49	2.37	2.31	2.26	2.22
20.0	3.08	3.23	2.98	2.83	2.73	2.61	2.53	2.49	2.44
21.0	3.23	3.54	3.26	3.10	2.99	2.86	2.77	2.72	2.67
22.0	3.39	3.85	3.56	3.38	3.26	3.11	3.02	2.96	2.91
23.0	3.54	4.18	3.86	3.67	3.54	3.38	3.28	3.22	3.15
24.0	3.69	4.53	4.18	3.97	3.83	3.66	3.55	3.48	3.41
25.0	3.85	4.88	4.51	4.28	4.13	3.94	3.83	3.76	3.68
26.0	4.00	5.25	4.85	4.60	4.44	4.24	4.12	4.04	3.96
27.0	4.16	5.63	5.20	4.94	4.76	4.55	4.42	4.33	4.24
28.0	4.31	6.02	5.56	5.28	5.09	4.86	4.72	4.63	4.54
29.0	4.46	6.42	5.93	5.63	5.44	5.19	5.04	4.94	4.84
30.0	4.62	6.84	6.31	6.00	5.79	5.52	5.37	5.26	5.16
31.0	4.77	7.27	6.71	6.37	6.15	5.87	5.70	5.59	5.48
32.0	4.93	7.71	7.11	6.76	6.52	6.23	6.05	5.93	5.81
33.0	5.08	8.16	7.53	7.16	6.90	6.59	6.40	6.28	6.15
34.0	5.23	8.62	7.96	7.56	7.30	6.96	6.77	6.63	6.50
35.0	5.39	9.10	8.40	7.98	7.70	7.35	7.14	7.00	6.86
36.0	5.54	9.58	8.85	8.40	8.11	7.74	7.52	7.37	7.23
37.0	5.70	10.08	9.31	8.84	8.53	8.14	7.91	7.76	7.60
38.0	5.85	10.59	9.78	9.29	8.96	8.56	8.31	8.15	7.99
39.0	6.00	11.11	10.26	9.75	9.40	8.98	8.72	8.55	8.38
40.0	6.16	11.65	10.75	10.21	9.86	9.41	9.14	8.96	8.78
41.0	6.31	12.19	11.25	10.69	10.32	9.85	9.57	9.38	9.19
42.0	6.47	12.75	11.77	11.18	10.79	10.30	10.00	9.81	9.61
43.0	6.62	13.31	12.29	11.68	11.27	10.75	10.45	10.24	10.04
44.0	6.77	13.89	12.82	12.18	11.76	11.22	10.90	10.69	10.47
45.0	6.93	14.48	13.37	12.70	12.25	11.70	11.36	11.14	10.92
46.0	7.08	15.08	13.92	13.23	12.76	12.18	11.83	11.60	11.37
47.0	7.24	15.70	14.49	13.76	13.28	12.68	12.32	12.07	11.83
48.0	7.39	16.32	15.06	14.31	13.81	13.18	12.80	12.55	12.30
49.0	7.54	16.95	15.65	14.87	14.35	13.69	13.30	13.04	12.78
50.0	7.70	17.60	16.25	15.43	14.89	14.21	13.81	13.54	13.27
52.0	8.00	18.92	17.47	16.59	16.01	15.28	14.85	14.56	14.27
54.0	8.31	20.29	18.73	17.79	17.17	16.39	15.92	15.61	15.30
56.0	8.62	21.70	20.04	19.03	18.37	17.53	17.03	16.70	16.36
58.0	8.93	23.16	21.38	20.31	19.60	18.71	18.17	17.82	17.46
60.0	9.24	24.66	22.76	21.62	20.87	19.92	19.35	18.97	18.59
62.0	9.54	26.20	24.19	22.98	22.17	21.16	20.56	20.16	19.75
64.0	9.85	27.79	25.65	24.37	23.51	22.44	21.80	21.37	20.95
66.0	10.16	29.41	27.15	25.79	24.89	23.76	23.08	22.63	22.17

Pressure Loss Tables

Pressure Loss Per 100 Feet

2" Wirsbo hePEX and Uponor AquaPEX (40% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
9.0	1.39	0.79	0.73	0.69	0.67	0.64	0.62	0.61	0.60
10.0	1.54	0.96	0.89	0.84	0.81	0.78	0.75	0.74	0.72
11.0	1.69	1.15	1.06	1.01	0.97	0.93	0.90	0.88	0.86
12.0	1.85	1.35	1.24	1.18	1.14	1.09	1.06	1.04	1.02
13.0	2.00	1.56	1.44	1.37	1.32	1.26	1.23	1.20	1.18
14.0	2.16	1.79	1.65	1.57	1.52	1.45	1.41	1.38	1.35
15.0	2.31	2.04	1.88	1.78	1.72	1.64	1.60	1.57	1.53
16.0	2.46	2.29	2.12	2.01	1.94	1.85	1.80	1.76	1.73
17.0	2.62	2.57	2.37	2.25	2.17	2.07	2.01	1.97	1.93
18.0	2.77	2.85	2.63	2.50	2.41	2.30	2.24	2.19	2.15
19.0	2.92	3.15	2.91	2.76	2.67	2.55	2.47	2.42	2.38
20.0	3.08	3.47	3.20	3.04	2.93	2.80	2.72	2.67	2.61
21.0	3.23	3.79	3.50	3.33	3.21	3.06	2.98	2.92	2.86
22.0	3.39	4.13	3.82	3.62	3.50	3.34	3.24	3.18	3.12
23.0	3.54	4.49	4.14	3.94	3.80	3.62	3.52	3.45	3.38
24.0	3.69	4.86	4.48	4.26	4.11	3.92	3.81	3.73	3.66
25.0	3.85	5.24	4.83	4.59	4.43	4.23	4.11	4.03	3.95
26.0	4.00	5.63	5.20	4.94	4.76	4.55	4.42	4.33	4.24
27.0	4.16	6.04	5.57	5.29	5.11	4.88	4.74	4.64	4.55
28.0	4.31	6.46	5.96	5.66	5.46	5.22	5.07	4.97	4.87
29.0	4.46	6.89	6.36	6.04	5.83	5.57	5.41	5.30	5.19
30.0	4.62	7.34	6.77	6.43	6.21	5.93	5.76	5.64	5.53
31.0	4.77	7.80	7.20	6.84	6.60	6.30	6.12	6.00	5.88
32.0	4.93	8.27	7.63	7.25	7.00	6.68	6.49	6.36	6.23
33.0	5.08	8.75	8.08	7.67	7.41	7.07	6.87	6.73	6.60
34.0	5.23	9.25	8.54	8.11	7.83	7.47	7.26	7.11	6.97
35.0	5.39	9.76	9.01	8.56	8.26	7.88	7.66	7.51	7.36
36.0	5.54	10.28	9.49	9.01	8.70	8.30	8.07	7.91	7.75
37.0	5.70	10.81	9.98	9.48	9.15	8.73	8.49	8.32	8.15
38.0	5.85	11.36	10.49	9.96	9.61	9.18	8.91	8.74	8.56
39.0	6.00	11.92	11.00	10.45	10.09	9.63	9.35	9.17	8.99
40.0	6.16	12.49	11.53	10.95	10.57	10.09	9.80	9.61	9.42
41.0	6.31	13.08	12.07	11.47	11.06	10.56	10.26	10.06	9.86
42.0	6.47	13.67	12.62	11.99	11.57	11.04	10.73	10.52	10.31
43.0	6.62	14.28	13.18	12.52	12.08	11.53	11.20	10.99	10.77
44.0	6.77	14.90	13.75	13.07	12.61	12.04	11.69	11.46	11.23
45.0	6.93	15.53	14.34	13.62	13.14	12.55	12.19	11.95	11.71
46.0	7.08	16.18	14.93	14.19	13.69	13.07	12.69	12.44	12.20
47.0	7.24	16.84	15.54	14.76	14.25	13.60	13.21	12.95	12.69
48.0	7.39	17.50	16.16	15.35	14.81	14.14	13.73	13.46	13.20
49.0	7.54	18.18	16.79	15.95	15.39	14.69	14.27	13.99	13.71
50.0	7.70	18.88	17.42	16.55	15.97	15.25	14.81	14.52	14.23
52.0	8.00	20.30	18.74	17.80	17.17	16.39	15.93	15.61	15.30
54.0	8.31	21.77	20.09	19.09	18.42	17.58	17.08	16.74	16.41
56.0	8.62	23.28	21.49	20.41	19.70	18.80	18.27	17.91	17.55
58.0	8.93	24.84	22.93	21.78	21.02	20.06	19.49	19.11	18.73
60.0	9.24	26.45	24.41	23.19	22.38	21.36	20.75	20.35	19.94
62.0	9.54	28.10	25.94	24.64	23.78	22.70	22.05	21.62	21.19
64.0	9.85	29.80	27.51	26.14	25.22	24.07	23.38	22.93	22.47
66.0	10.16	31.55	29.12	27.67	26.70	25.48	24.75	24.27	23.78

Pressure Loss Per 100 Feet

2" Wirsbo hePEX and Uponor AquaPEX (50% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
9.0	1.39	0.83	0.77	0.73	0.70	0.67	0.65	0.64	0.63
10.0	1.54	1.01	0.93	0.89	0.86	0.82	0.79	0.78	0.76
11.0	1.69	1.21	1.11	1.06	1.02	0.97	0.95	0.93	0.91
12.0	1.85	1.42	1.31	1.24	1.20	1.15	1.11	1.09	1.07
13.0	2.00	1.64	1.52	1.44	1.39	1.33	1.29	1.26	1.24
14.0	2.16	1.89	1.74	1.65	1.60	1.52	1.48	1.45	1.42
15.0	2.31	2.14	1.98	1.88	1.81	1.73	1.68	1.65	1.61
16.0	2.46	2.41	2.23	2.12	2.04	1.95	1.89	1.86	1.82
17.0	2.62	2.70	2.49	2.37	2.29	2.18	2.12	2.08	2.04
18.0	2.77	3.00	2.77	2.63	2.54	2.42	2.36	2.31	2.26
19.0	2.92	3.32	3.06	2.91	2.81	2.68	2.60	2.55	2.50
20.0	3.08	3.65	3.37	3.20	3.09	2.95	2.86	2.81	2.75
21.0	3.23	3.99	3.69	3.50	3.38	3.22	3.13	3.07	3.01
22.0	3.39	4.35	4.02	3.82	3.68	3.51	3.41	3.35	3.28
23.0	3.54	4.72	4.36	4.14	4.00	3.82	3.71	3.63	3.56
24.0	3.69	5.11	4.72	4.48	4.32	4.13	4.01	3.93	3.85
25.0	3.85	5.51	5.09	4.83	4.66	4.45	4.32	4.24	4.16
26.0	4.00	5.93	5.47	5.20	5.01	4.79	4.65	4.56	4.47
27.0	4.16	6.36	5.87	5.57	5.38	5.13	4.99	4.89	4.79
28.0	4.31	6.80	6.27	5.96	5.75	5.49	5.33	5.23	5.12
29.0	4.46	7.25	6.70	6.36	6.14	5.86	5.69	5.58	5.47
30.0	4.62	7.72	7.13	6.77	6.53	6.24	6.06	5.94	5.82
31.0	4.77	8.21	7.57	7.20	6.94	6.63	6.44	6.31	6.19
32.0	4.93	8.70	8.03	7.63	7.36	7.03	6.83	6.69	6.56
33.0	5.08	9.21	8.50	8.08	7.79	7.44	7.23	7.09	6.94
34.0	5.23	9.74	8.99	8.54	8.24	7.86	7.64	7.49	7.34
35.0	5.39	10.27	9.48	9.01	8.69	8.30	8.06	7.90	7.74
36.0	5.54	10.82	9.99	9.49	9.16	8.74	8.49	8.32	8.16
37.0	5.70	11.38	10.51	9.98	9.63	9.19	8.93	8.76	8.58
38.0	5.85	11.96	11.04	10.49	10.12	9.66	9.38	9.20	9.02
39.0	6.00	12.55	11.58	11.00	10.62	10.14	9.85	9.65	9.46
40.0	6.16	13.15	12.14	11.53	11.13	10.62	10.32	10.12	9.91
41.0	6.31	13.76	12.71	12.07	11.65	11.12	10.80	10.59	10.38
42.0	6.47	14.39	13.28	12.62	12.18	11.62	11.29	11.07	10.85
43.0	6.62	15.03	13.88	13.18	12.72	12.14	11.79	11.56	11.33
44.0	6.77	15.69	14.48	13.75	13.27	12.67	12.31	12.07	11.82
45.0	6.93	16.35	15.09	14.34	13.84	13.21	12.83	12.58	12.33
46.0	7.08	17.03	15.72	14.93	14.41	13.75	13.36	13.10	12.84
47.0	7.24	17.72	16.36	15.54	14.99	14.31	13.90	13.63	13.36
48.0	7.39	18.43	17.01	16.16	15.59	14.88	14.46	14.17	13.89
49.0	7.54	19.14	17.67	16.79	16.20	15.46	15.02	14.72	14.43
50.0	7.70	19.87	18.34	17.42	16.81	16.05	15.59	15.28	14.98
52.0	8.00	21.37	19.72	18.74	18.08	17.26	16.76	16.44	16.11
54.0	8.31	22.91	21.15	20.09	19.39	18.50	17.98	17.62	17.27
56.0	8.62	24.51	22.62	21.49	20.74	19.79	19.23	18.85	18.47
58.0	8.93	26.15	24.14	22.93	22.13	21.12	20.52	20.11	19.71
60.0	9.24	27.84	25.70	24.41	23.56	22.49	21.84	21.42	20.99
62.0	9.54	29.58	27.31	25.94	25.03	23.89	23.21	22.76	22.30
64.0	9.85	31.37	28.96	27.51	26.55	25.34	24.62	24.13	23.65
66.0	10.16	33.21	30.66	29.12	28.10	26.82	26.06	25.55	25.04

Pressure Loss Tables

Pressure Loss Per 100 Feet

2½" Wirsbo hePEX and Uponor AquaPEX (100% Water)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
14	1.41	0.48	0.45	0.42	0.41	0.39	0.38	0.37	0.36
15	1.52	0.55	0.51	0.48	0.46	0.44	0.43	0.42	0.41
16	1.62	0.62	0.57	0.54	0.52	0.50	0.49	0.48	0.47
17	1.72	0.69	0.64	0.61	0.59	0.56	0.54	0.53	0.52
18	1.82	0.77	0.71	0.67	0.65	0.62	0.60	0.59	0.58
19	1.92	0.85	0.78	0.75	0.72	0.69	0.67	0.65	0.64
20	2.02	0.93	0.86	0.82	0.79	0.76	0.73	0.72	0.70
21	2.12	1.02	0.94	0.90	0.87	0.83	0.80	0.79	0.77
22	2.22	1.12	1.03	0.98	0.94	0.90	0.87	0.86	0.84
23	2.32	1.21	1.12	1.06	1.02	0.98	0.95	0.93	0.91
24	2.42	1.31	1.21	1.15	1.11	1.06	1.03	1.01	0.99
25	2.53	1.41	1.30	1.24	1.20	1.14	1.11	1.09	1.06
26	2.63	1.52	1.40	1.33	1.29	1.23	1.19	1.17	1.15
27	2.73	1.63	1.50	1.43	1.38	1.32	1.28	1.25	1.23
28	2.83	1.74	1.61	1.53	1.47	1.41	1.37	1.34	1.31
29	2.93	1.86	1.72	1.63	1.57	1.50	1.46	1.43	1.40
30	3.03	1.98	1.83	1.74	1.67	1.60	1.55	1.52	1.49
32	3.23	2.23	2.06	1.96	1.89	1.80	1.75	1.72	1.68
34	3.43	2.49	2.30	2.19	2.11	2.02	1.96	1.92	1.88
36	3.64	2.77	2.56	2.43	2.35	2.24	2.18	2.13	2.09
38	3.84	3.07	2.83	2.69	2.59	2.48	2.40	2.36	2.31
40	4.04	3.37	3.11	2.96	2.85	2.72	2.64	2.59	2.54
42	4.24	3.69	3.40	3.23	3.12	2.98	2.89	2.84	2.78
44	4.44	4.02	3.71	3.53	3.40	3.25	3.15	3.09	3.03
46	4.65	4.36	4.03	3.83	3.69	3.53	3.42	3.36	3.29
48	4.85	4.72	4.36	4.14	4.00	3.81	3.70	3.63	3.56
50	5.05	5.09	4.70	4.47	4.31	4.11	4.00	3.92	3.84
52	5.25	5.48	5.05	4.80	4.63	4.42	4.30	4.21	4.13
54	5.45	5.87	5.42	5.15	4.97	4.74	4.61	4.52	4.43
56	5.66	6.28	5.80	5.51	5.31	5.07	4.93	4.83	4.73
58	5.86	6.70	6.19	5.88	5.67	5.41	5.26	5.16	5.05
60	6.06	7.14	6.59	6.26	6.04	5.76	5.60	5.49	5.38
62	6.26	7.58	7.00	6.65	6.42	6.12	5.95	5.83	5.72
64	6.46	8.04	7.42	7.05	6.80	6.49	6.31	6.18	6.06
66	6.67	8.51	7.86	7.46	7.20	6.87	6.68	6.55	6.42
68	6.87	8.99	8.30	7.89	7.61	7.26	7.06	6.92	6.78
70	7.07	9.49	8.76	8.32	8.03	7.66	7.45	7.30	7.15
72	7.27	10.00	9.23	8.77	8.46	8.08	7.84	7.69	7.54
74	7.47	10.52	9.71	9.22	8.90	8.49	8.25	8.09	7.93
76	7.68	11.05	10.20	9.69	9.35	8.92	8.67	8.50	8.33
78	7.88	11.59	10.70	10.17	9.81	9.36	9.10	8.92	8.74
80	8.08	12.15	11.21	10.65	10.28	9.81	9.53	9.35	9.16
82	8.28	12.72	11.74	11.15	10.76	10.27	9.98	9.78	9.59
84	8.48	13.30	12.27	11.66	11.25	10.74	10.43	10.23	10.02
86	8.69	13.89	12.82	12.18	11.75	11.22	10.90	10.68	10.47
88	8.89	14.49	13.38	12.71	12.26	11.71	11.37	11.15	10.92
90	9.09	15.11	13.95	13.25	12.78	12.20	11.85	11.62	11.39
92	9.29	15.73	14.52	13.80	13.31	12.71	12.35	12.10	11.86
94	9.49	16.37	15.11	14.36	13.85	13.22	12.85	12.59	12.34
96	9.70	17.02	15.71	14.93	14.40	13.75	13.36	13.09	12.83
98	9.90	17.68	16.32	15.51	14.96	14.28	13.88	13.60	13.33
100	10.10	18.36	16.95	16.10	15.53	14.83	14.40	14.12	13.84

Pressure Loss Per 100 Feet

2½" Wirsbo hePEX and Uponor AquaPEX (30% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
14	1.41	0.60	0.55	0.53	0.51	0.48	0.47	0.46	0.45
15	1.52	0.68	0.63	0.60	0.58	0.55	0.53	0.52	0.51
16	1.62	0.77	0.71	0.67	0.65	0.62	0.60	0.59	0.58
17	1.72	0.86	0.79	0.75	0.73	0.69	0.67	0.66	0.65
18	1.82	0.95	0.88	0.84	0.81	0.77	0.75	0.73	0.72
19	1.92	1.05	0.97	0.92	0.89	0.85	0.83	0.81	0.79
20	2.02	1.16	1.07	1.02	0.98	0.94	0.91	0.89	0.87
21	2.12	1.27	1.17	1.11	1.07	1.02	1.00	0.98	0.96
22	2.22	1.38	1.28	1.21	1.17	1.12	1.08	1.06	1.04
23	2.32	1.50	1.39	1.32	1.27	1.21	1.18	1.15	1.13
24	2.42	1.62	1.50	1.42	1.37	1.31	1.27	1.25	1.22
25	2.53	1.75	1.62	1.54	1.48	1.41	1.37	1.35	1.32
26	2.63	1.88	1.74	1.65	1.59	1.52	1.48	1.45	1.42
27	2.73	2.02	1.86	1.77	1.71	1.63	1.58	1.55	1.52
28	2.83	2.16	1.99	1.89	1.83	1.74	1.69	1.66	1.63
29	2.93	2.31	2.13	2.02	1.95	1.86	1.81	1.77	1.74
30	3.03	2.45	2.27	2.15	2.08	1.98	1.93	1.89	1.85
32	3.23	2.77	2.55	2.43	2.34	2.23	2.17	2.13	2.08
34	3.43	3.09	2.86	2.71	2.62	2.50	2.43	2.38	2.33
36	3.64	3.44	3.17	3.02	2.91	2.78	2.70	2.65	2.59
38	3.84	3.80	3.51	3.33	3.22	3.07	2.98	2.92	2.87
40	4.04	4.18	3.86	3.66	3.54	3.38	3.28	3.21	3.15
42	4.24	4.57	4.22	4.01	3.87	3.69	3.59	3.52	3.45
44	4.44	4.98	4.60	4.37	4.22	4.03	3.91	3.83	3.76
46	4.65	5.41	5.00	4.75	4.58	4.37	4.25	4.16	4.08
48	4.85	5.86	5.40	5.13	4.95	4.73	4.59	4.50	4.41
50	5.05	6.31	5.83	5.54	5.34	5.10	4.95	4.86	4.76
52	5.25	6.79	6.27	5.95	5.75	5.48	5.33	5.22	5.12
54	5.45	7.28	6.72	6.38	6.16	5.88	5.71	5.60	5.49
56	5.66	7.79	7.19	6.83	6.59	6.29	6.11	5.99	5.87
58	5.86	8.31	7.67	7.29	7.03	6.71	6.52	6.39	6.26
60	6.06	8.85	8.17	7.76	7.49	7.15	6.94	6.81	6.67
62	6.26	9.40	8.68	8.24	7.95	7.59	7.38	7.23	7.09
64	6.46	9.97	9.20	8.74	8.44	8.05	7.82	7.67	7.52
66	6.67	10.55	9.74	9.25	8.93	8.52	8.28	8.12	7.96
68	6.87	11.15	10.30	9.78	9.44	9.01	8.75	8.58	8.41
70	7.07	11.77	10.86	10.32	9.96	9.50	9.23	9.05	8.87
72	7.27	12.40	11.44	10.87	10.49	10.01	9.73	9.54	9.35
74	7.47	13.04	12.04	11.44	11.04	10.53	10.23	10.03	9.83
76	7.68	13.70	12.65	12.01	11.59	11.07	10.75	10.54	10.33
78	7.88	14.38	13.27	12.61	12.16	11.61	11.28	11.06	10.84
80	8.08	15.07	13.91	13.21	12.75	12.17	11.82	11.59	11.36
82	8.28	15.77	14.56	13.83	13.34	12.74	12.37	12.13	11.89
84	8.48	16.49	15.22	14.46	13.95	13.32	12.94	12.68	12.43
86	8.69	17.22	15.90	15.10	14.57	13.91	13.51	13.25	12.98
88	8.89	17.97	16.59	15.76	15.21	14.51	14.10	13.82	13.55
90	9.09	18.73	17.29	16.43	15.85	15.13	14.70	14.41	14.12
92	9.29	19.51	18.01	17.11	16.51	15.76	15.31	15.01	14.71
94	9.49	20.30	18.74	17.80	17.18	16.40	15.93	15.62	15.30
96	9.70	21.11	19.48	18.51	17.86	17.05	16.56	16.24	15.91
98	9.90	21.93	20.24	19.23	18.56	17.71	17.21	16.87	16.53
100	10.10	22.76	21.01	19.96	19.26	18.39	17.86	17.51	17.16

Pressure Loss Tables

Pressure Loss Per 100 Feet

2½" Wirsbo hePEX and Uponor AquaPEX (40% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
14	1.41	0.64	0.59	0.56	0.54	0.52	0.50	0.49	0.48
15	1.52	0.73	0.67	0.64	0.62	0.59	0.57	0.56	0.55
16	1.62	0.82	0.76	0.72	0.70	0.66	0.65	0.63	0.62
17	1.72	0.92	0.85	0.81	0.78	0.74	0.72	0.71	0.69
18	1.82	1.02	0.94	0.90	0.87	0.83	0.80	0.79	0.77
19	1.92	1.13	1.04	0.99	0.96	0.91	0.89	0.87	0.85
20	2.02	1.24	1.15	1.09	1.05	1.00	0.98	0.96	0.94
21	2.12	1.36	1.26	1.19	1.15	1.10	1.07	1.05	1.03
22	2.22	1.48	1.37	1.30	1.25	1.20	1.16	1.14	1.12
23	2.32	1.61	1.49	1.41	1.36	1.30	1.26	1.24	1.21
24	2.42	1.74	1.61	1.53	1.47	1.41	1.37	1.34	1.31
25	2.53	1.88	1.73	1.65	1.59	1.52	1.47	1.45	1.42
26	2.63	2.02	1.86	1.77	1.71	1.63	1.59	1.55	1.52
27	2.73	2.17	2.00	1.90	1.83	1.75	1.70	1.67	1.63
28	2.83	2.32	2.14	2.03	1.96	1.87	1.82	1.78	1.75
29	2.93	2.47	2.28	2.17	2.09	2.00	1.94	1.90	1.86
30	3.03	2.63	2.43	2.31	2.23	2.13	2.07	2.02	1.98
32	3.23	2.97	2.74	2.60	2.51	2.40	2.33	2.28	2.24
34	3.43	3.32	3.06	2.91	2.81	2.68	2.60	2.55	2.50
36	3.64	3.69	3.40	3.23	3.12	2.98	2.89	2.84	2.78
38	3.84	4.08	3.76	3.57	3.45	3.29	3.20	3.14	3.07
40	4.04	4.48	4.14	3.93	3.79	3.62	3.52	3.45	3.38
42	4.24	4.91	4.53	4.30	4.15	3.96	3.85	3.77	3.70
44	4.44	5.35	4.94	4.69	4.52	4.32	4.19	4.11	4.03
46	4.65	5.80	5.36	5.09	4.91	4.69	4.55	4.47	4.38
48	4.85	6.28	5.80	5.51	5.31	5.07	4.93	4.83	4.73
50	5.05	6.77	6.25	5.94	5.73	5.47	5.31	5.21	5.11
52	5.25	7.28	6.72	6.39	6.16	5.88	5.71	5.60	5.49
54	5.45	7.81	7.21	6.85	6.61	6.31	6.13	6.01	5.89
56	5.66	8.35	7.71	7.32	7.07	6.75	6.55	6.43	6.30
58	5.86	8.91	8.23	7.82	7.54	7.20	6.99	6.86	6.72
60	6.06	9.49	8.76	8.32	8.03	7.66	7.45	7.30	7.15
62	6.26	10.08	9.31	8.84	8.53	8.14	7.91	7.76	7.60
64	6.46	10.69	9.87	9.38	9.05	8.64	8.39	8.23	8.06
66	6.67	11.32	10.45	9.93	9.58	9.14	8.88	8.71	8.53
68	6.87	11.96	11.04	10.49	10.12	9.66	9.39	9.20	9.02
70	7.07	12.62	11.65	11.07	10.68	10.19	9.90	9.71	9.51
72	7.27	13.30	12.27	11.66	11.25	10.74	10.43	10.23	10.02
74	7.47	13.99	12.91	12.27	11.84	11.30	10.98	10.76	10.55
76	7.68	14.70	13.57	12.89	12.43	11.87	11.53	11.30	11.08
78	7.88	15.42	14.23	13.52	13.05	12.45	12.10	11.86	11.62
80	8.08	16.16	14.92	14.17	13.67	13.05	12.68	12.43	12.18
82	8.28	16.91	15.61	14.83	14.31	13.66	13.27	13.01	12.75
84	8.48	17.68	16.32	15.51	14.96	14.28	13.88	13.60	13.33
86	8.69	18.47	17.05	16.20	15.63	14.92	14.49	14.21	13.92
88	8.89	19.27	17.79	16.90	16.31	15.57	15.12	14.83	14.53
90	9.09	20.09	18.55	17.62	17.00	16.23	15.76	15.46	15.15
92	9.29	20.93	19.32	18.35	17.71	16.90	16.42	16.10	15.78
94	9.49	21.78	20.10	19.10	18.43	17.59	17.09	16.75	16.42
96	9.70	22.64	20.90	19.85	19.16	18.29	17.76	17.42	17.07
98	9.90	23.52	21.71	20.63	19.90	19.00	18.45	18.09	17.73
100	10.10	24.42	22.54	21.41	20.66	19.72	19.16	18.78	18.41

Pressure Loss Per 100 Feet

2½" Wirsbo hePEX and Uponor AquaPEX (50% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
14	1.41	0.68	0.62	0.59	0.57	0.55	0.53	0.52	0.51
15	1.52	0.77	0.71	0.67	0.65	0.62	0.60	0.59	0.58
16	1.62	0.87	0.80	0.76	0.73	0.70	0.68	0.67	0.65
17	1.72	0.97	0.89	0.85	0.82	0.78	0.76	0.75	0.73
18	1.82	1.08	0.99	0.94	0.91	0.87	0.85	0.83	0.81
19	1.92	1.19	1.10	1.04	1.01	0.96	0.93	0.92	0.90
20	2.02	1.31	1.21	1.15	1.11	1.06	1.03	1.01	0.99
21	2.12	1.43	1.32	1.26	1.21	1.16	1.12	1.10	1.08
22	2.22	1.56	1.44	1.37	1.32	1.26	1.22	1.20	1.18
23	2.32	1.69	1.56	1.49	1.43	1.37	1.33	1.30	1.28
24	2.42	1.83	1.69	1.61	1.55	1.48	1.44	1.41	1.38
25	2.53	1.98	1.83	1.73	1.67	1.60	1.55	1.52	1.49
26	2.63	2.13	1.96	1.86	1.80	1.72	1.67	1.64	1.60
27	2.73	2.28	2.10	2.00	1.93	1.84	1.79	1.75	1.72
28	2.83	2.44	2.25	2.14	2.06	1.97	1.91	1.88	1.84
29	2.93	2.60	2.40	2.28	2.20	2.10	2.04	2.00	1.96
30	3.03	2.77	2.56	2.43	2.34	2.24	2.17	2.13	2.09
32	3.23	3.12	2.88	2.74	2.64	2.52	2.45	2.40	2.35
34	3.43	3.49	3.22	3.06	2.96	2.82	2.74	2.69	2.63
36	3.64	3.88	3.58	3.40	3.29	3.14	3.05	2.99	2.93
38	3.84	4.29	3.96	3.76	3.63	3.47	3.37	3.30	3.23
40	4.04	4.72	4.36	4.14	3.99	3.81	3.70	3.63	3.56
42	4.24	5.16	4.77	4.53	4.37	4.17	4.05	3.97	3.89
44	4.44	5.63	5.20	4.94	4.76	4.55	4.42	4.33	4.24
46	4.65	6.11	5.64	5.36	5.17	4.94	4.79	4.70	4.61
48	4.85	6.61	6.10	5.80	5.59	5.34	5.19	5.09	4.98
50	5.05	7.13	6.58	6.25	6.03	5.76	5.59	5.48	5.37
52	5.25	7.67	7.08	6.72	6.49	6.19	6.01	5.90	5.78
54	5.45	8.22	7.59	7.21	6.96	6.64	6.45	6.32	6.20
56	5.66	8.79	8.12	7.71	7.44	7.10	6.90	6.76	6.63
58	5.86	9.38	8.66	8.23	7.94	7.58	7.36	7.22	7.07
60	6.06	9.99	9.22	8.76	8.45	8.07	7.84	7.68	7.53
62	6.26	10.61	9.80	9.31	8.98	8.57	8.33	8.16	8.00
64	6.46	11.26	10.39	9.87	9.52	9.09	8.83	8.66	8.49
66	6.67	11.92	11.00	10.45	10.08	9.62	9.35	9.17	8.98
68	6.87	12.59	11.62	11.04	10.65	10.17	9.88	9.69	9.49
70	7.07	13.29	12.26	11.65	11.24	10.73	10.42	10.22	10.02
72	7.27	14.00	12.92	12.27	11.84	11.31	10.98	10.77	10.55
74	7.47	14.72	13.59	12.91	12.46	11.89	11.55	11.33	11.10
76	7.68	15.47	14.28	13.57	13.09	12.49	12.14	11.90	11.66
78	7.88	16.23	14.98	14.23	13.73	13.11	12.73	12.49	12.24
80	8.08	17.01	15.70	14.92	14.39	13.74	13.35	13.08	12.82
82	8.28	17.80	16.43	15.61	15.06	14.38	13.97	13.70	13.42
84	8.48	18.62	17.18	16.32	15.75	15.04	14.61	14.32	14.03
86	8.69	19.44	17.95	17.05	16.45	15.70	15.26	14.96	14.66
88	8.89	20.29	18.73	17.79	17.17	16.39	15.92	15.61	15.29
90	9.09	21.15	19.52	18.55	17.90	17.08	16.59	16.27	15.94
92	9.29	22.03	20.33	19.32	18.64	17.79	17.28	16.94	16.61
94	9.49	22.92	21.16	20.10	19.40	18.51	17.98	17.63	17.28
96	9.70	23.83	22.00	20.90	20.17	19.25	18.70	18.33	17.97
98	9.90	24.76	22.85	21.71	20.95	20.00	19.43	19.05	18.66
100	10.10	25.70	23.72	22.54	21.75	20.76	20.17	19.77	19.38

Pressure Loss Tables

Pressure Loss Per 100 Feet

3" Wirsbo hePEX and Uponor AquaPEX (100% Water)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
21	1.49	0.43	0.40	0.38	0.37	0.35	0.34	0.33	0.33
22	1.56	0.47	0.44	0.42	0.40	0.38	0.37	0.36	0.36
23	1.63	0.51	0.47	0.45	0.44	0.42	0.40	0.40	0.39
24	1.70	0.56	0.51	0.49	0.47	0.45	0.44	0.43	0.42
25	1.78	0.60	0.55	0.53	0.51	0.48	0.47	0.46	0.45
26	1.85	0.65	0.60	0.57	0.55	0.52	0.51	0.50	0.49
27	1.92	0.69	0.64	0.61	0.59	0.56	0.54	0.53	0.52
28	1.99	0.74	0.68	0.65	0.63	0.60	0.58	0.57	0.56
29	2.06	0.79	0.73	0.69	0.67	0.64	0.62	0.61	0.60
30	2.13	0.84	0.78	0.74	0.71	0.68	0.66	0.65	0.63
31	2.20	0.89	0.82	0.78	0.76	0.72	0.70	0.69	0.67
32	2.27	0.95	0.87	0.83	0.80	0.77	0.74	0.73	0.71
33	2.34	1.00	0.93	0.88	0.85	0.81	0.79	0.77	0.76
34	2.42	1.06	0.98	0.93	0.90	0.86	0.83	0.82	0.80
35	2.49	1.12	1.03	0.98	0.95	0.90	0.88	0.86	0.84
36	2.56	1.18	1.09	1.03	1.00	0.95	0.92	0.91	0.89
37	2.63	1.24	1.14	1.09	1.05	1.00	0.97	0.95	0.93
38	2.70	1.30	1.20	1.14	1.10	1.05	1.02	1.00	0.98
39	2.77	1.37	1.26	1.20	1.16	1.10	1.07	1.05	1.03
40	2.84	1.43	1.32	1.26	1.21	1.16	1.12	1.10	1.08
41	2.91	1.50	1.38	1.31	1.27	1.21	1.18	1.15	1.13
42	2.98	1.57	1.45	1.37	1.33	1.27	1.23	1.21	1.18
43	3.05	1.64	1.51	1.43	1.38	1.32	1.28	1.26	1.23
44	3.13	1.71	1.58	1.50	1.44	1.38	1.34	1.31	1.29
45	3.20	1.78	1.64	1.56	1.51	1.44	1.40	1.37	1.34
46	3.27	1.85	1.71	1.63	1.57	1.50	1.45	1.43	1.40
47	3.34	1.93	1.78	1.69	1.63	1.56	1.51	1.48	1.45
48	3.41	2.01	1.85	1.76	1.70	1.62	1.57	1.54	1.51
49	3.48	2.08	1.92	1.83	1.76	1.68	1.63	1.60	1.57
50	3.55	2.16	2.00	1.90	1.83	1.75	1.70	1.66	1.63
52	3.69	2.33	2.15	2.04	1.97	1.88	1.82	1.79	1.75
54	3.84	2.49	2.30	2.19	2.11	2.01	1.96	1.92	1.88
56	3.98	2.67	2.46	2.34	2.26	2.15	2.09	2.05	2.01
58	4.12	2.85	2.63	2.50	2.41	2.30	2.23	2.19	2.15
60	4.26	3.03	2.80	2.66	2.56	2.45	2.38	2.33	2.28
62	4.40	3.22	2.97	2.82	2.72	2.60	2.53	2.48	2.43
64	4.55	3.41	3.15	2.99	2.89	2.76	2.68	2.63	2.57
66	4.69	3.61	3.34	3.17	3.06	2.92	2.84	2.78	2.73
68	4.83	3.82	3.53	3.35	3.23	3.09	3.00	2.94	2.88
70	4.97	4.03	3.72	3.53	3.41	3.26	3.16	3.10	3.04
72	5.11	4.25	3.92	3.72	3.59	3.43	3.33	3.27	3.20
74	5.26	4.47	4.12	3.92	3.78	3.61	3.50	3.44	3.37
76	5.40	4.69	4.33	4.12	3.97	3.79	3.68	3.61	3.54
78	5.54	4.92	4.55	4.32	4.17	3.98	3.86	3.79	3.71
80	5.68	5.16	4.76	4.52	4.37	4.17	4.05	3.97	3.89
82	5.83	5.40	4.99	4.74	4.57	4.36	4.24	4.15	4.07
84	5.97	5.65	5.21	4.95	4.78	4.56	4.43	4.34	4.26
86	6.11	5.90	5.44	5.17	4.99	4.76	4.63	4.54	4.45
88	6.25	6.15	5.68	5.40	5.21	4.97	4.83	4.73	4.64
90	6.39	6.42	5.92	5.63	5.43	5.18	5.03	4.94	4.84
92	6.54	6.68	6.17	5.86	5.65	5.40	5.24	5.14	5.04
94	6.68	6.95	6.42	6.10	5.88	5.62	5.46	5.35	5.24

Pressure Loss Per 100 Feet

3" Wirsbo hePEX and Uponor AquaPEX (100% Water)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
96	6.82	7.23	6.67	6.34	6.12	5.84	5.67	5.56	5.45
98	6.96	7.51	6.93	6.59	6.36	6.07	5.89	5.78	5.66
100	7.10	7.80	7.20	6.84	6.60	6.30	6.12	6.00	5.88
102	7.25	8.09	7.47	7.09	6.84	6.53	6.35	6.22	6.10
104	7.39	8.38	7.74	7.35	7.09	6.77	6.58	6.45	6.32
106	7.53	8.68	8.02	7.62	7.35	7.01	6.81	6.68	6.55
108	7.67	8.99	8.30	7.88	7.61	7.26	7.05	6.92	6.78
110	7.81	9.30	8.59	8.16	7.87	7.51	7.30	7.15	7.01
112	7.96	9.62	8.88	8.43	8.14	7.77	7.54	7.40	7.25
114	8.10	9.94	9.17	8.71	8.41	8.03	7.80	7.64	7.49
116	8.24	10.26	9.47	9.00	8.68	8.29	8.05	7.89	7.73
118	8.38	10.59	9.78	9.29	8.96	8.55	8.31	8.15	7.98
120	8.52	10.92	10.08	9.58	9.24	8.82	8.57	8.40	8.24
122	8.67	11.26	10.40	9.88	9.53	9.10	8.84	8.66	8.49
124	8.81	11.61	10.72	10.18	9.82	9.38	9.11	8.93	8.75
126	8.95	11.96	11.04	10.49	10.12	9.66	9.38	9.20	9.01
128	9.09	12.31	11.36	10.80	10.42	9.94	9.66	9.47	9.28
130	9.23	12.67	11.69	11.11	10.72	10.23	9.94	9.74	9.55
132	9.38	13.03	12.03	11.43	11.03	10.53	10.22	10.02	9.82
134	9.52	13.40	12.37	11.75	11.34	10.82	10.51	10.31	10.10
136	9.66	13.77	12.71	12.08	11.65	11.12	10.81	10.59	10.38
138	9.80	14.15	13.06	12.41	11.97	11.43	11.10	10.88	10.67
140	9.95	14.53	13.41	12.74	12.29	11.74	11.40	11.18	10.95
142	10.09	14.92	13.77	13.08	12.62	12.05	11.70	11.47	11.24

Pressure Loss Tables

Pressure Loss Per 100 Feet

3" Wirsbo hePEX and Uponor AquaPEX (30% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
21	1.49	0.54	0.50	0.47	0.46	0.44	0.42	0.41	0.41
22	1.56	0.59	0.54	0.51	0.50	0.47	0.46	0.45	0.44
23	1.63	0.64	0.59	0.56	0.54	0.51	0.50	0.49	0.48
24	1.70	0.69	0.64	0.60	0.58	0.56	0.54	0.53	0.52
25	1.78	0.74	0.69	0.65	0.63	0.60	0.58	0.57	0.56
26	1.85	0.80	0.74	0.70	0.68	0.65	0.63	0.62	0.60
27	1.92	0.86	0.79	0.75	0.73	0.69	0.67	0.66	0.65
28	1.99	0.92	0.85	0.80	0.78	0.74	0.72	0.71	0.69
29	2.06	0.98	0.90	0.86	0.83	0.79	0.77	0.75	0.74
30	2.13	1.04	0.96	0.91	0.88	0.84	0.82	0.80	0.79
31	2.20	1.11	1.02	0.97	0.94	0.89	0.87	0.85	0.83
32	2.27	1.17	1.08	1.03	0.99	0.95	0.92	0.90	0.89
33	2.34	1.24	1.15	1.09	1.05	1.00	0.98	0.96	0.94
34	2.42	1.31	1.21	1.15	1.11	1.06	1.03	1.01	0.99
35	2.49	1.39	1.28	1.22	1.17	1.12	1.09	1.07	1.05
36	2.56	1.46	1.35	1.28	1.24	1.18	1.15	1.12	1.10
37	2.63	1.54	1.42	1.35	1.30	1.24	1.21	1.18	1.16
38	2.70	1.61	1.49	1.42	1.37	1.30	1.27	1.24	1.22
39	2.77	1.69	1.56	1.49	1.43	1.37	1.33	1.30	1.28
40	2.84	1.77	1.64	1.56	1.50	1.43	1.39	1.37	1.34
41	2.91	1.86	1.71	1.63	1.57	1.50	1.46	1.43	1.40
42	2.98	1.94	1.79	1.70	1.64	1.57	1.52	1.49	1.46
43	3.05	2.03	1.87	1.78	1.72	1.64	1.59	1.56	1.53
44	3.13	2.12	1.95	1.86	1.79	1.71	1.66	1.63	1.60
45	3.20	2.21	2.04	1.94	1.87	1.78	1.73	1.70	1.66
46	3.27	2.30	2.12	2.02	1.94	1.86	1.80	1.77	1.73
47	3.34	2.39	2.21	2.10	2.02	1.93	1.88	1.84	1.80
48	3.41	2.49	2.30	2.18	2.10	2.01	1.95	1.91	1.87
49	3.48	2.58	2.38	2.27	2.19	2.09	2.03	1.99	1.95
50	3.55	2.68	2.48	2.35	2.27	2.17	2.10	2.06	2.02
52	3.69	2.88	2.66	2.53	2.44	2.33	2.26	2.22	2.17
54	3.84	3.09	2.85	2.71	2.62	2.50	2.43	2.38	2.33
56	3.98	3.31	3.05	2.90	2.80	2.67	2.60	2.54	2.49
58	4.12	3.53	3.26	3.09	2.99	2.85	2.77	2.71	2.66
60	4.26	3.76	3.47	3.30	3.18	3.04	2.95	2.89	2.83
62	4.40	3.99	3.69	3.50	3.38	3.22	3.13	3.07	3.01
64	4.55	4.23	3.91	3.71	3.58	3.42	3.32	3.26	3.19
66	4.69	4.48	4.14	3.93	3.79	3.62	3.52	3.45	3.38
68	4.83	4.74	4.37	4.15	4.01	3.83	3.72	3.64	3.57
70	4.97	5.00	4.61	4.38	4.23	4.04	3.92	3.84	3.77
72	5.11	5.27	4.86	4.62	4.46	4.25	4.13	4.05	3.97
74	5.26	5.54	5.11	4.86	4.69	4.47	4.35	4.26	4.18
76	5.40	5.82	5.37	5.10	4.92	4.70	4.57	4.48	4.39
78	5.54	6.11	5.64	5.35	5.17	4.93	4.79	4.70	4.60
80	5.68	6.40	5.91	5.61	5.41	5.17	5.02	4.92	4.82
82	5.83	6.70	6.18	5.87	5.67	5.41	5.25	5.15	5.05
84	5.97	7.00	6.46	6.14	5.93	5.66	5.49	5.39	5.28
86	6.11	7.31	6.75	6.41	6.19	5.91	5.74	5.63	5.51
88	6.25	7.63	7.05	6.69	6.46	6.16	5.99	5.87	5.75
90	6.39	7.96	7.34	6.98	6.73	6.43	6.24	6.12	6.00
92	6.54	8.29	7.65	7.27	7.01	6.69	6.50	6.37	6.25
94	6.68	8.62	7.96	7.56	7.30	6.96	6.77	6.63	6.50

Pressure Loss Per 100 Feet

3" Wirsbo hePEX and Uponor AquaPEX (30% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
96	6.82	8.97	8.28	7.86	7.59	7.24	7.03	6.90	6.76
98	6.96	9.31	8.60	8.17	7.88	7.52	7.31	7.16	7.02
100	7.10	9.67	8.92	8.48	8.18	7.81	7.59	7.44	7.29
102	7.25	10.03	9.26	8.79	8.49	8.10	7.87	7.71	7.56
104	7.39	10.40	9.60	9.12	8.80	8.40	8.16	8.00	7.84
106	7.53	10.77	9.94	9.44	9.11	8.70	8.45	8.28	8.12
108	7.67	11.15	10.29	9.78	9.43	9.00	8.75	8.58	8.40
110	7.81	11.53	10.65	10.11	9.76	9.31	9.05	8.87	8.69
112	7.96	11.92	11.01	10.46	10.09	9.63	9.36	9.17	8.99
114	8.10	12.32	11.37	10.80	10.42	9.95	9.67	9.48	9.29
116	8.24	12.72	11.74	11.16	10.77	10.28	9.98	9.79	9.59
118	8.38	13.13	12.12	11.52	11.11	10.61	10.30	10.10	9.90
120	8.52	13.55	12.50	11.88	11.46	10.94	10.63	10.42	10.21
122	8.67	13.97	12.89	12.25	11.82	11.28	10.96	10.74	10.53
124	8.81	14.39	13.29	12.62	12.18	11.63	11.29	11.07	10.85
126	8.95	14.83	13.69	13.00	12.55	11.98	11.63	11.40	11.18
128	9.09	15.26	14.09	13.39	12.92	12.33	11.98	11.74	11.51
130	9.23	15.71	14.50	13.78	13.29	12.69	12.33	12.08	11.84
132	9.38	16.16	14.92	14.17	13.67	13.05	12.68	12.43	12.18
134	9.52	16.61	15.34	14.57	14.06	13.42	13.04	12.78	12.52
136	9.66	17.08	15.76	14.97	14.45	13.79	13.40	13.14	12.87
138	9.80	17.54	16.19	15.38	14.84	14.17	13.77	13.50	13.23
140	9.95	18.02	16.63	15.80	15.25	14.55	14.14	13.86	13.58
142	10.09	18.50	17.07	16.22	15.65	14.94	14.51	14.23	13.94

Pressure Loss Tables

Pressure Loss Per 100 Feet

3" Wirsbo hePEX and Uponor AquaPEX (40% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
21	1.49	0.58	0.53	0.51	0.49	0.47	0.45	0.44	0.44
22	1.56	0.63	0.58	0.55	0.53	0.51	0.49	0.48	0.47
23	1.63	0.68	0.63	0.60	0.58	0.55	0.54	0.53	0.52
24	1.70	0.74	0.68	0.65	0.63	0.60	0.58	0.57	0.56
25	1.78	0.80	0.74	0.70	0.68	0.64	0.63	0.61	0.60
26	1.85	0.86	0.79	0.75	0.73	0.69	0.67	0.66	0.65
27	1.92	0.92	0.85	0.81	0.78	0.74	0.72	0.71	0.69
28	1.99	0.98	0.91	0.86	0.83	0.79	0.77	0.76	0.74
29	2.06	1.05	0.97	0.92	0.89	0.85	0.82	0.81	0.79
30	2.13	1.12	1.03	0.98	0.95	0.90	0.88	0.86	0.84
31	2.20	1.19	1.10	1.04	1.01	0.96	0.93	0.91	0.90
32	2.27	1.26	1.16	1.10	1.07	1.02	0.99	0.97	0.95
33	2.34	1.33	1.23	1.17	1.13	1.08	1.05	1.03	1.01
34	2.42	1.41	1.30	1.24	1.19	1.14	1.11	1.08	1.06
35	2.49	1.49	1.37	1.30	1.26	1.20	1.17	1.14	1.12
36	2.56	1.57	1.45	1.37	1.33	1.27	1.23	1.21	1.18
37	2.63	1.65	1.52	1.45	1.39	1.33	1.29	1.27	1.24
38	2.70	1.73	1.60	1.52	1.46	1.40	1.36	1.33	1.31
39	2.77	1.82	1.68	1.59	1.54	1.47	1.43	1.40	1.37
40	2.84	1.90	1.76	1.67	1.61	1.54	1.49	1.46	1.44
41	2.91	1.99	1.84	1.75	1.69	1.61	1.56	1.53	1.50
42	2.98	2.08	1.92	1.83	1.76	1.68	1.63	1.60	1.57
43	3.05	2.18	2.01	1.91	1.84	1.76	1.71	1.67	1.64
44	3.13	2.27	2.10	1.99	1.92	1.83	1.78	1.75	1.71
45	3.20	2.37	2.19	2.08	2.00	1.91	1.86	1.82	1.78
46	3.27	2.47	2.28	2.16	2.09	1.99	1.93	1.90	1.86
47	3.34	2.57	2.37	2.25	2.17	2.07	2.01	1.97	1.93
48	3.41	2.67	2.46	2.34	2.26	2.15	2.09	2.05	2.01
49	3.48	2.77	2.56	2.43	2.34	2.24	2.17	2.13	2.09
50	3.55	2.88	2.66	2.52	2.43	2.32	2.26	2.21	2.17
52	3.69	3.09	2.86	2.71	2.62	2.50	2.43	2.38	2.33
54	3.84	3.32	3.06	2.91	2.81	2.68	2.60	2.55	2.50
56	3.98	3.55	3.27	3.11	3.00	2.87	2.78	2.73	2.67
58	4.12	3.79	3.49	3.32	3.20	3.06	2.97	2.91	2.85
60	4.26	4.03	3.72	3.53	3.41	3.26	3.16	3.10	3.04
62	4.40	4.28	3.95	3.76	3.62	3.46	3.36	3.29	3.23
64	4.55	4.54	4.19	3.98	3.84	3.67	3.56	3.49	3.42
66	4.69	4.81	4.44	4.22	4.07	3.88	3.77	3.70	3.62
68	4.83	5.08	4.69	4.46	4.30	4.10	3.99	3.91	3.83
70	4.97	5.36	4.95	4.70	4.54	4.33	4.21	4.12	4.04
72	5.11	5.65	5.21	4.95	4.78	4.56	4.43	4.34	4.26
74	5.26	5.94	5.48	5.21	5.03	4.80	4.66	4.57	4.48
76	5.40	6.24	5.76	5.47	5.28	5.04	4.90	4.80	4.71
78	5.54	6.55	6.04	5.74	5.54	5.29	5.14	5.04	4.94
80	5.68	6.86	6.33	6.02	5.81	5.54	5.38	5.28	5.17
82	5.83	7.18	6.63	6.30	6.08	5.80	5.64	5.53	5.42
84	5.97	7.51	6.93	6.59	6.36	6.07	5.89	5.78	5.66
86	6.11	7.85	7.24	6.88	6.64	6.34	6.16	6.03	5.91
88	6.25	8.19	7.56	7.18	6.93	6.61	6.42	6.30	6.17
90	6.39	8.53	7.88	7.48	7.22	6.89	6.70	6.56	6.43
92	6.54	8.89	8.20	7.79	7.52	7.18	6.97	6.84	6.70
94	6.68	9.25	8.54	8.11	7.83	7.47	7.26	7.11	6.97

Pressure Loss Per 100 Feet

3" Wirsbo hePEX and Uponor AquaPEX (40% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
96	6.82	9.62	8.88	8.43	8.14	7.77	7.54	7.40	7.25
98	6.96	9.99	9.22	8.76	8.45	8.07	7.84	7.68	7.53
100	7.10	10.37	9.57	9.09	8.77	8.38	8.14	7.98	7.82
102	7.25	10.76	9.93	9.43	9.10	8.69	8.44	8.27	8.11
104	7.39	11.15	10.29	9.78	9.44	9.01	8.75	8.58	8.41
106	7.53	11.55	10.66	10.13	9.77	9.33	9.06	8.88	8.71
108	7.67	11.96	11.04	10.49	10.12	9.66	9.38	9.20	9.01
110	7.81	12.37	11.42	10.85	10.47	9.99	9.71	9.52	9.32
112	7.96	12.79	11.81	11.21	10.82	10.33	10.03	9.84	9.64
114	8.10	13.21	12.20	11.59	11.18	10.67	10.37	10.17	9.96
116	8.24	13.65	12.60	11.97	11.55	11.02	10.71	10.50	10.29
118	8.38	14.09	13.00	12.35	11.92	11.38	11.05	10.83	10.62
120	8.52	14.53	13.41	12.74	12.29	11.74	11.40	11.18	10.95
122	8.67	14.98	13.83	13.14	12.68	12.10	11.75	11.52	11.29
124	8.81	15.44	14.25	13.54	13.06	12.47	12.11	11.88	11.64
126	8.95	15.90	14.68	13.95	13.46	12.84	12.48	12.23	11.99
128	9.09	16.37	15.11	14.36	13.85	13.22	12.85	12.59	12.34
130	9.23	16.85	15.55	14.78	14.26	13.61	13.22	12.96	12.70
132	9.38	17.33	16.00	15.20	14.67	14.00	13.60	13.33	13.07
134	9.52	17.82	16.45	15.63	15.08	14.39	13.98	13.71	13.43
136	9.66	18.32	16.91	16.06	15.50	14.79	14.37	14.09	13.81
138	9.80	18.82	17.37	16.50	15.92	15.20	14.76	14.47	14.19
140	9.95	19.32	17.84	16.95	16.35	15.61	15.16	14.87	14.57
142	10.09	19.84	18.31	17.40	16.79	16.02	15.57	15.26	14.96

Pressure Loss Tables

Pressure Loss Per 100 Feet

3" Wirsbo hePEX and Uponor AquaPEX (50% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
21	1.49	0.61	0.56	0.53	0.51	0.49	0.48	0.47	0.46
22	1.56	0.66	0.61	0.58	0.56	0.54	0.52	0.51	0.50
23	1.63	0.72	0.66	0.63	0.61	0.58	0.56	0.55	0.54
24	1.70	0.78	0.72	0.68	0.66	0.63	0.61	0.60	0.59
25	1.78	0.84	0.78	0.74	0.71	0.68	0.66	0.65	0.63
26	1.85	0.90	0.83	0.79	0.76	0.73	0.71	0.69	0.68
27	1.92	0.97	0.89	0.85	0.82	0.78	0.76	0.74	0.73
28	1.99	1.04	0.96	0.91	0.88	0.84	0.81	0.80	0.78
29	2.06	1.11	1.02	0.97	0.94	0.89	0.87	0.85	0.83
30	2.13	1.18	1.09	1.03	1.00	0.95	0.92	0.91	0.89
31	2.20	1.25	1.15	1.10	1.06	1.01	0.98	0.96	0.94
32	2.27	1.33	1.22	1.16	1.12	1.07	1.04	1.02	1.00
33	2.34	1.40	1.30	1.23	1.19	1.13	1.10	1.08	1.06
34	2.42	1.48	1.37	1.30	1.26	1.20	1.16	1.14	1.12
35	2.49	1.57	1.44	1.37	1.32	1.26	1.23	1.20	1.18
36	2.56	1.65	1.52	1.45	1.40	1.33	1.29	1.27	1.24
37	2.63	1.73	1.60	1.52	1.47	1.40	1.36	1.33	1.31
38	2.70	1.82	1.68	1.60	1.54	1.47	1.43	1.40	1.37
39	2.77	1.91	1.77	1.68	1.62	1.54	1.50	1.47	1.44
40	2.84	2.00	1.85	1.76	1.70	1.62	1.57	1.54	1.51
41	2.91	2.10	1.94	1.84	1.77	1.69	1.65	1.61	1.58
42	2.98	2.19	2.02	1.92	1.86	1.77	1.72	1.69	1.65
43	3.05	2.29	2.11	2.01	1.94	1.85	1.80	1.76	1.73
44	3.13	2.39	2.21	2.10	2.02	1.93	1.88	1.84	1.80
45	3.20	2.49	2.30	2.19	2.11	2.01	1.96	1.92	1.88
46	3.27	2.60	2.40	2.28	2.20	2.10	2.04	2.00	1.96
47	3.34	2.70	2.49	2.37	2.29	2.18	2.12	2.08	2.04
48	3.41	2.81	2.59	2.46	2.38	2.27	2.20	2.16	2.12
49	3.48	2.92	2.69	2.56	2.47	2.36	2.29	2.24	2.20
50	3.55	3.03	2.80	2.66	2.56	2.45	2.38	2.33	2.28
52	3.69	3.26	3.01	2.86	2.75	2.63	2.55	2.50	2.45
54	3.84	3.49	3.22	3.06	2.95	2.82	2.74	2.69	2.63
56	3.98	3.73	3.45	3.27	3.16	3.02	2.93	2.87	2.82
58	4.12	3.98	3.68	3.49	3.37	3.22	3.13	3.07	3.00
60	4.26	4.24	3.92	3.72	3.59	3.43	3.33	3.26	3.20
62	4.40	4.51	4.16	3.95	3.81	3.64	3.54	3.47	3.40
64	4.55	4.78	4.41	4.19	4.05	3.86	3.75	3.68	3.60
66	4.69	5.06	4.67	4.44	4.28	4.09	3.97	3.89	3.82
68	4.83	5.35	4.94	4.69	4.53	4.32	4.20	4.11	4.03
70	4.97	5.64	5.21	4.95	4.77	4.56	4.43	4.34	4.25
72	5.11	5.94	5.49	5.21	5.03	4.80	4.66	4.57	4.48
74	5.26	6.25	5.77	5.48	5.29	5.05	4.91	4.81	4.71
76	5.40	6.57	6.06	5.76	5.56	5.31	5.15	5.05	4.95
78	5.54	6.89	6.36	6.04	5.83	5.57	5.41	5.30	5.20
80	5.68	7.22	6.67	6.33	6.11	5.83	5.67	5.56	5.45
82	5.83	7.56	6.98	6.63	6.40	6.11	5.93	5.82	5.70
84	5.97	7.91	7.30	6.93	6.69	6.39	6.20	6.08	5.96
86	6.11	8.26	7.62	7.24	6.99	6.67	6.48	6.35	6.23
88	6.25	8.62	7.95	7.56	7.29	6.96	6.76	6.63	6.50
90	6.39	8.98	8.29	7.88	7.60	7.26	7.05	6.91	6.77
92	6.54	9.36	8.64	8.20	7.92	7.56	7.34	7.20	7.05
94	6.68	9.74	8.99	8.54	8.24	7.86	7.64	7.49	7.34

Pressure Loss Per 100 Feet

3" Wirsbo hePEX and Uponor AquaPEX (50% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
96	6.82	10.12	9.34	8.88	8.56	8.18	7.94	7.79	7.63
98	6.96	10.52	9.71	9.22	8.90	8.49	8.25	8.09	7.93
100	7.10	10.92	10.08	9.57	9.24	8.82	8.56	8.40	8.23
102	7.25	11.32	10.45	9.93	9.58	9.15	8.88	8.71	8.54
104	7.39	11.74	10.83	10.29	9.93	9.48	9.21	9.03	8.85
106	7.53	12.16	11.22	10.66	10.29	9.82	9.54	9.35	9.17
108	7.67	12.59	11.62	11.04	10.65	10.17	9.88	9.68	9.49
110	7.81	13.02	12.02	11.42	11.02	10.52	10.22	10.02	9.82
112	7.96	13.46	12.43	11.81	11.39	10.87	10.56	10.36	10.15
114	8.10	13.91	12.84	12.20	11.77	11.24	10.91	10.70	10.49
116	8.24	14.36	13.26	12.60	12.15	11.60	11.27	11.05	10.83
118	8.38	14.83	13.69	13.00	12.55	11.98	11.63	11.41	11.18
120	8.52	15.29	14.12	13.41	12.94	12.35	12.00	11.77	11.53
122	8.67	15.77	14.56	13.83	13.34	12.74	12.37	12.13	11.89
124	8.81	16.25	15.00	14.25	13.75	13.13	12.75	12.50	12.25
126	8.95	16.74	15.45	14.68	14.16	13.52	13.13	12.88	12.62
128	9.09	17.23	15.91	15.11	14.58	13.92	13.52	13.26	12.99
130	9.23	17.74	16.37	15.55	15.01	14.33	13.92	13.64	13.37
132	9.38	18.24	16.84	16.00	15.44	14.74	14.31	14.03	13.75
134	9.52	18.76	17.32	16.45	15.87	15.15	14.72	14.43	14.14
136	9.66	19.28	17.80	16.91	16.31	15.57	15.13	14.83	14.53
138	9.80	19.81	18.28	17.37	16.76	16.00	15.54	15.24	14.93
140	9.95	20.34	18.78	17.84	17.21	16.43	15.96	15.65	15.33
142	10.09	20.88	19.28	18.31	17.67	16.87	16.39	16.06	15.74

Pressure Loss Tables

Pressure Loss Per 100 Feet

3½" Wirsbo hePEX and Uponor AquaPEX (100% Water)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
30	1.58	0.41	0.38	0.36	0.34	0.33	0.32	0.31	0.31
31	1.63	0.43	0.40	0.38	0.37	0.35	0.34	0.33	0.33
32	1.69	0.46	0.42	0.40	0.39	0.37	0.36	0.35	0.35
33	1.74	0.49	0.45	0.43	0.41	0.39	0.38	0.37	0.37
34	1.79	0.51	0.47	0.45	0.43	0.41	0.40	0.39	0.39
35	1.84	0.54	0.50	0.47	0.46	0.44	0.42	0.42	0.41
36	1.90	0.57	0.53	0.50	0.48	0.46	0.45	0.44	0.43
37	1.95	0.60	0.55	0.53	0.51	0.48	0.47	0.46	0.45
38	2.00	0.63	0.58	0.55	0.53	0.51	0.49	0.48	0.47
39	2.06	0.66	0.61	0.58	0.56	0.53	0.52	0.51	0.50
40	2.11	0.69	0.64	0.61	0.59	0.56	0.54	0.53	0.52
41	2.16	0.72	0.67	0.64	0.61	0.59	0.57	0.56	0.55
42	2.21	0.76	0.70	0.66	0.64	0.61	0.59	0.58	0.57
43	2.27	0.79	0.73	0.69	0.67	0.64	0.62	0.61	0.60
44	2.32	0.83	0.76	0.72	0.70	0.67	0.65	0.64	0.62
45	2.37	0.86	0.79	0.76	0.73	0.70	0.68	0.66	0.65
46	2.42	0.90	0.83	0.79	0.76	0.72	0.70	0.69	0.68
47	2.48	0.93	0.86	0.82	0.79	0.75	0.73	0.72	0.70
48	2.53	0.97	0.90	0.85	0.82	0.78	0.76	0.75	0.73
49	2.58	1.01	0.93	0.88	0.85	0.81	0.79	0.78	0.76
50	2.64	1.05	0.97	0.92	0.89	0.85	0.82	0.80	0.79
52	2.74	1.13	1.04	0.99	0.95	0.91	0.88	0.87	0.85
54	2.85	1.21	1.11	1.06	1.02	0.97	0.95	0.93	0.91
56	2.95	1.29	1.19	1.13	1.09	1.04	1.01	0.99	0.97
58	3.06	1.38	1.27	1.21	1.17	1.11	1.08	1.06	1.04
60	3.16	1.47	1.35	1.29	1.24	1.18	1.15	1.13	1.11
62	3.27	1.56	1.44	1.37	1.32	1.26	1.22	1.20	1.17
64	3.37	1.65	1.52	1.45	1.40	1.33	1.30	1.27	1.25
66	3.48	1.75	1.61	1.53	1.48	1.41	1.37	1.35	1.32
68	3.58	1.85	1.71	1.62	1.56	1.49	1.45	1.42	1.39
70	3.69	1.95	1.80	1.71	1.65	1.57	1.53	1.50	1.47
72	3.79	2.05	1.90	1.80	1.74	1.66	1.61	1.58	1.55
74	3.90	2.16	1.99	1.89	1.83	1.75	1.70	1.66	1.63
76	4.01	2.27	2.10	1.99	1.92	1.83	1.78	1.75	1.71
78	4.11	2.38	2.20	2.09	2.02	1.92	1.87	1.83	1.80
80	4.22	2.50	2.30	2.19	2.11	2.02	1.96	1.92	1.88
82	4.32	2.61	2.41	2.29	2.21	2.11	2.05	2.01	1.97
84	4.43	2.73	2.52	2.40	2.31	2.21	2.14	2.10	2.06
86	4.53	2.85	2.63	2.50	2.41	2.30	2.24	2.19	2.15
88	4.64	2.98	2.75	2.61	2.52	2.40	2.34	2.29	2.24
90	4.74	3.10	2.87	2.72	2.63	2.51	2.44	2.39	2.34
92	4.85	3.23	2.98	2.83	2.74	2.61	2.54	2.49	2.44
94	4.95	3.36	3.11	2.95	2.85	2.72	2.64	2.59	2.54
96	5.06	3.50	3.23	3.07	2.96	2.82	2.74	2.69	2.64
98	5.17	3.63	3.35	3.19	3.07	2.93	2.85	2.79	2.74
100	5.27	3.77	3.48	3.31	3.19	3.05	2.96	2.90	2.84
102	5.38	3.91	3.61	3.43	3.31	3.16	3.07	3.01	2.95
104	5.48	4.06	3.74	3.56	3.43	3.28	3.18	3.12	3.06
106	5.59	4.20	3.88	3.68	3.55	3.39	3.30	3.23	3.17
108	5.69	4.35	4.01	3.81	3.68	3.51	3.41	3.35	3.28
110	5.80	4.50	4.15	3.95	3.81	3.63	3.53	3.46	3.39
112	5.90	4.65	4.29	4.08	3.94	3.76	3.65	3.58	3.51

Pressure Loss Per 100 Feet

3½" Wirsbo hePEX and Uponor AquaPEX (100% Water)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
114	6.01	4.81	4.44	4.21	4.07	3.88	3.77	3.70	3.62
116	6.11	4.96	4.58	4.35	4.20	4.01	3.89	3.82	3.74
118	6.22	5.12	4.73	4.49	4.33	4.14	4.02	3.94	3.86
120	6.32	5.28	4.88	4.63	4.47	4.27	4.15	4.07	3.98
122	6.43	5.45	5.03	4.78	4.61	4.40	4.28	4.19	4.11
124	6.54	5.62	5.18	4.92	4.75	4.54	4.41	4.32	4.23
126	6.64	5.78	5.34	5.07	4.89	4.67	4.54	4.45	4.36
128	6.75	5.96	5.50	5.22	5.04	4.81	4.67	4.58	4.49
130	6.85	6.13	5.66	5.37	5.19	4.95	4.81	4.71	4.62
132	6.96	6.30	5.82	5.53	5.33	5.09	4.95	4.85	4.75
134	7.06	6.48	5.98	5.68	5.48	5.24	5.09	4.99	4.89
136	7.17	6.66	6.15	5.84	5.64	5.38	5.23	5.12	5.02
138	7.27	6.84	6.32	6.00	5.79	5.53	5.37	5.26	5.16
140	7.38	7.03	6.49	6.16	5.95	5.68	5.51	5.41	5.30
142	7.48	7.22	6.66	6.33	6.11	5.83	5.66	5.55	5.44
144	7.59	7.40	6.84	6.49	6.27	5.98	5.81	5.70	5.58
146	7.69	7.60	7.01	6.66	6.43	6.14	5.96	5.84	5.73
148	7.80	7.79	7.19	6.83	6.59	6.29	6.11	5.99	5.87
150	7.91	7.99	7.37	7.00	6.76	6.45	6.27	6.14	6.02
155	8.17	8.49	7.83	7.44	7.18	6.85	6.66	6.53	6.40
160	8.43	9.00	8.31	7.89	7.61	7.27	7.06	6.92	6.78
165	8.70	9.53	8.79	8.35	8.06	7.69	7.47	7.33	7.18
170	8.96	10.07	9.29	8.83	8.52	8.13	7.90	7.74	7.59
175	9.22	10.62	9.80	9.31	8.99	8.58	8.33	8.17	8.01
180	9.49	11.19	10.33	9.81	9.47	9.04	8.78	8.61	8.43
185	9.75	11.77	10.87	10.32	9.96	9.51	9.24	9.05	8.87
190	10.01	12.37	11.42	10.84	10.46	9.99	9.70	9.51	9.32

Pressure Loss Tables

Pressure Loss Per 100 Feet

3½" Wirsbo hePEX and Uponor AquaPEX (30% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
30	1.58	0.50	0.47	0.44	0.43	0.41	0.40	0.39	0.38
31	1.63	0.54	0.49	0.47	0.45	0.43	0.42	0.41	0.40
32	1.69	0.57	0.52	0.50	0.48	0.46	0.45	0.44	0.43
33	1.74	0.60	0.56	0.53	0.51	0.49	0.47	0.46	0.45
34	1.79	0.64	0.59	0.56	0.54	0.51	0.50	0.49	0.48
35	1.84	0.67	0.62	0.59	0.57	0.54	0.53	0.52	0.51
36	1.90	0.71	0.65	0.62	0.60	0.57	0.55	0.54	0.53
37	1.95	0.74	0.69	0.65	0.63	0.60	0.58	0.57	0.56
38	2.00	0.78	0.72	0.68	0.66	0.63	0.61	0.60	0.59
39	2.06	0.82	0.76	0.72	0.69	0.66	0.64	0.63	0.62
40	2.11	0.86	0.79	0.75	0.73	0.69	0.67	0.66	0.65
41	2.16	0.90	0.83	0.79	0.76	0.73	0.71	0.69	0.68
42	2.21	0.94	0.87	0.82	0.80	0.76	0.74	0.72	0.71
43	2.27	0.98	0.91	0.86	0.83	0.79	0.77	0.75	0.74
44	2.32	1.02	0.95	0.90	0.87	0.83	0.80	0.79	0.77
45	2.37	1.07	0.99	0.94	0.90	0.86	0.84	0.82	0.80
46	2.42	1.11	1.03	0.98	0.94	0.90	0.87	0.86	0.84
47	2.48	1.16	1.07	1.01	0.98	0.93	0.91	0.89	0.87
48	2.53	1.20	1.11	1.05	1.02	0.97	0.94	0.93	0.91
49	2.58	1.25	1.15	1.10	1.06	1.01	0.98	0.96	0.94
50	2.64	1.30	1.20	1.14	1.10	1.05	1.02	1.00	0.98
52	2.74	1.40	1.29	1.22	1.18	1.13	1.09	1.07	1.05
54	2.85	1.50	1.38	1.31	1.27	1.21	1.17	1.15	1.13
56	2.95	1.60	1.48	1.40	1.35	1.29	1.26	1.23	1.21
58	3.06	1.71	1.58	1.50	1.44	1.38	1.34	1.31	1.29
60	3.16	1.82	1.68	1.59	1.54	1.47	1.43	1.40	1.37
62	3.27	1.93	1.78	1.69	1.63	1.56	1.52	1.49	1.46
64	3.37	2.05	1.89	1.80	1.73	1.65	1.61	1.58	1.54
66	3.48	2.17	2.00	1.90	1.83	1.75	1.70	1.67	1.63
68	3.58	2.29	2.12	2.01	1.94	1.85	1.80	1.76	1.73
70	3.69	2.42	2.23	2.12	2.05	1.95	1.90	1.86	1.82
72	3.79	2.55	2.35	2.23	2.16	2.06	2.00	1.96	1.92
74	3.90	2.68	2.47	2.35	2.27	2.16	2.10	2.06	2.02
76	4.01	2.81	2.60	2.47	2.38	2.27	2.21	2.17	2.12
78	4.11	2.95	2.73	2.59	2.50	2.39	2.32	2.27	2.23
80	4.22	3.10	2.86	2.71	2.62	2.50	2.43	2.38	2.33
82	4.32	3.24	2.99	2.84	2.74	2.62	2.54	2.49	2.44
84	4.43	3.39	3.13	2.97	2.87	2.74	2.66	2.61	2.55
86	4.53	3.54	3.27	3.10	2.99	2.86	2.78	2.72	2.67
88	4.64	3.69	3.41	3.24	3.12	2.98	2.90	2.84	2.78
90	4.74	3.85	3.55	3.38	3.26	3.11	3.02	2.96	2.90
92	4.85	4.01	3.70	3.52	3.39	3.24	3.15	3.08	3.02
94	4.95	4.17	3.85	3.66	3.53	3.37	3.27	3.21	3.14
96	5.06	4.34	4.00	3.80	3.67	3.50	3.40	3.34	3.27
98	5.17	4.51	4.16	3.95	3.81	3.64	3.54	3.47	3.40
100	5.27	4.68	4.32	4.10	3.96	3.78	3.67	3.60	3.53
102	5.38	4.85	4.48	4.25	4.11	3.92	3.81	3.73	3.66
104	5.48	5.03	4.64	4.41	4.26	4.06	3.95	3.87	3.79
106	5.59	5.21	4.81	4.57	4.41	4.21	4.09	4.01	3.93
108	5.69	5.39	4.98	4.73	4.56	4.36	4.23	4.15	4.07
110	5.80	5.58	5.15	4.89	4.72	4.51	4.38	4.29	4.21
112	5.90	5.77	5.32	5.06	4.88	4.66	4.53	4.44	4.35

Pressure Loss Per 100 Feet

3½" Wirsbo hePEX and Uponor AquaPEX (30% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
114	6.01	5.96	5.50	5.23	5.04	4.81	4.68	4.58	4.49
116	6.11	6.15	5.68	5.40	5.21	4.97	4.83	4.73	4.64
118	6.22	6.35	5.86	5.57	5.38	5.13	4.98	4.89	4.79
120	6.32	6.55	6.05	5.75	5.55	5.29	5.14	5.04	4.94
122	6.43	6.76	6.24	5.93	5.72	5.46	5.30	5.20	5.09
124	6.54	6.96	6.43	6.11	5.89	5.62	5.46	5.36	5.25
126	6.64	7.17	6.62	6.29	6.07	5.79	5.63	5.52	5.41
128	6.75	7.38	6.82	6.48	6.25	5.96	5.79	5.68	5.57
130	6.85	7.60	7.01	6.66	6.43	6.14	5.96	5.85	5.73
132	6.96	7.82	7.22	6.85	6.61	6.31	6.13	6.01	5.89
134	7.06	8.04	7.42	7.05	6.80	6.49	6.31	6.18	6.06
136	7.17	8.26	7.63	7.24	6.99	6.67	6.48	6.35	6.23
138	7.27	8.49	7.83	7.44	7.18	6.85	6.66	6.53	6.40
140	7.38	8.72	8.05	7.64	7.37	7.04	6.84	6.70	6.57
142	7.48	8.95	8.26	7.85	7.57	7.23	7.02	6.88	6.75
144	7.59	9.18	8.48	8.05	7.77	7.42	7.20	7.06	6.92
146	7.69	9.42	8.69	8.26	7.97	7.61	7.39	7.25	7.10
148	7.80	9.66	8.92	8.47	8.17	7.80	7.58	7.43	7.28
150	7.91	9.90	9.14	8.68	8.38	8.00	7.77	7.62	7.46
155	8.17	10.52	9.71	9.23	8.90	8.50	8.26	8.09	7.93
160	8.43	11.16	10.30	9.78	9.44	9.01	8.75	8.58	8.41
165	8.70	11.81	10.90	10.36	9.99	9.54	9.27	9.09	8.90
170	8.96	12.48	11.52	10.95	10.56	10.08	9.79	9.60	9.41
175	9.22	13.17	12.16	11.55	11.14	10.64	10.33	10.13	9.93
180	9.49	13.87	12.81	12.17	11.74	11.21	10.89	10.67	10.46
185	9.75	14.60	13.47	12.80	12.35	11.79	11.45	11.23	11.00
190	10.01	15.33	14.15	13.45	12.98	12.39	12.03	11.80	11.56

Pressure Loss Tables

Pressure Loss Per 100 Feet

3½" Wirsbo hePEX and Uponor AquaPEX (40% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
30	1.58	0.54	0.50	0.47	0.46	0.44	0.42	0.42	0.41
31	1.63	0.57	0.53	0.50	0.49	0.46	0.45	0.44	0.43
32	1.69	0.61	0.56	0.53	0.52	0.49	0.48	0.47	0.46
33	1.74	0.65	0.60	0.57	0.55	0.52	0.51	0.50	0.49
34	1.79	0.68	0.63	0.60	0.58	0.55	0.53	0.52	0.51
35	1.84	0.72	0.66	0.63	0.61	0.58	0.56	0.55	0.54
36	1.90	0.76	0.70	0.66	0.64	0.61	0.59	0.58	0.57
37	1.95	0.80	0.74	0.70	0.67	0.64	0.63	0.61	0.60
38	2.00	0.84	0.77	0.73	0.71	0.68	0.66	0.64	0.63
39	2.06	0.88	0.81	0.77	0.74	0.71	0.69	0.68	0.66
40	2.11	0.92	0.85	0.81	0.78	0.74	0.72	0.71	0.69
41	2.16	0.96	0.89	0.85	0.82	0.78	0.76	0.74	0.73
42	2.21	1.01	0.93	0.88	0.85	0.81	0.79	0.78	0.76
43	2.27	1.05	0.97	0.92	0.89	0.85	0.83	0.81	0.79
44	2.32	1.10	1.01	0.96	0.93	0.89	0.86	0.84	0.83
45	2.37	1.15	1.06	1.00	0.97	0.92	0.90	0.88	0.86
46	2.42	1.19	1.10	1.05	1.01	0.96	0.94	0.92	0.90
47	2.48	1.24	1.15	1.09	1.05	1.00	0.97	0.95	0.94
48	2.53	1.29	1.19	1.13	1.09	1.04	1.01	0.99	0.97
49	2.58	1.34	1.24	1.18	1.13	1.08	1.05	1.03	1.01
50	2.64	1.39	1.28	1.22	1.18	1.12	1.09	1.07	1.05
52	2.74	1.50	1.38	1.31	1.27	1.21	1.17	1.15	1.13
54	2.85	1.60	1.48	1.41	1.36	1.30	1.26	1.23	1.21
56	2.95	1.72	1.58	1.50	1.45	1.39	1.35	1.32	1.29
58	3.06	1.83	1.69	1.61	1.55	1.48	1.44	1.41	1.38
60	3.16	1.95	1.80	1.71	1.65	1.57	1.53	1.50	1.47
62	3.27	2.07	1.91	1.82	1.75	1.67	1.63	1.59	1.56
64	3.37	2.20	2.03	1.93	1.86	1.77	1.72	1.69	1.66
66	3.48	2.33	2.15	2.04	1.97	1.88	1.82	1.79	1.75
68	3.58	2.46	2.27	2.16	2.08	1.99	1.93	1.89	1.85
70	3.69	2.59	2.39	2.27	2.19	2.09	2.03	1.99	1.95
72	3.79	2.73	2.52	2.40	2.31	2.21	2.14	2.10	2.06
74	3.90	2.87	2.65	2.52	2.43	2.32	2.25	2.21	2.17
76	4.01	3.02	2.79	2.65	2.55	2.44	2.37	2.32	2.28
78	4.11	3.17	2.92	2.78	2.68	2.56	2.49	2.44	2.39
80	4.22	3.32	3.06	2.91	2.81	2.68	2.60	2.55	2.50
82	4.32	3.47	3.21	3.05	2.94	2.81	2.73	2.67	2.62
84	4.43	3.63	3.35	3.19	3.07	2.93	2.85	2.79	2.74
86	4.53	3.80	3.50	3.33	3.21	3.07	2.98	2.92	2.86
88	4.64	3.96	3.66	3.47	3.35	3.20	3.11	3.05	2.99
90	4.74	4.13	3.81	3.62	3.49	3.33	3.24	3.18	3.11
92	4.85	4.30	3.97	3.77	3.64	3.47	3.37	3.31	3.24
94	4.95	4.47	4.13	3.92	3.79	3.61	3.51	3.44	3.37
96	5.06	4.65	4.29	4.08	3.94	3.76	3.65	3.58	3.51
98	5.17	4.83	4.46	4.24	4.09	3.90	3.79	3.72	3.64
100	5.27	5.02	4.63	4.40	4.24	4.05	3.94	3.86	3.78
102	5.38	5.20	4.80	4.56	4.40	4.20	4.08	4.00	3.92
104	5.48	5.39	4.98	4.73	4.56	4.36	4.23	4.15	4.07
106	5.59	5.59	5.16	4.90	4.73	4.51	4.38	4.30	4.21
108	5.69	5.78	5.34	5.07	4.89	4.67	4.54	4.45	4.36
110	5.80	5.98	5.52	5.25	5.06	4.83	4.69	4.60	4.51
112	5.90	6.19	5.71	5.43	5.23	5.00	4.85	4.76	4.66

Pressure Loss Per 100 Feet

3½" Wirsbo hePEX and Uponor AquaPEX (40% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
114	6.01	6.39	5.90	5.61	5.41	5.16	5.02	4.92	4.82
116	6.11	6.60	6.09	5.79	5.59	5.33	5.18	5.08	4.98
118	6.22	6.81	6.29	5.98	5.77	5.50	5.35	5.24	5.14
120	6.32	7.03	6.49	6.16	5.95	5.68	5.51	5.41	5.30
122	6.43	7.25	6.69	6.36	6.13	5.85	5.69	5.57	5.46
124	6.54	7.47	6.89	6.55	6.32	6.03	5.86	5.74	5.63
126	6.64	7.69	7.10	6.75	6.51	6.21	6.04	5.92	5.80
128	6.75	7.92	7.31	6.95	6.70	6.40	6.21	6.09	5.97
130	6.85	8.15	7.52	7.15	6.90	6.58	6.40	6.27	6.14
132	6.96	8.38	7.74	7.35	7.09	6.77	6.58	6.45	6.32
134	7.06	8.62	7.96	7.56	7.29	6.96	6.76	6.63	6.50
136	7.17	8.86	8.18	7.77	7.50	7.16	6.95	6.82	6.68
138	7.27	9.10	8.40	7.98	7.70	7.35	7.14	7.00	6.86
140	7.38	9.35	8.63	8.20	7.91	7.55	7.33	7.19	7.05
142	7.48	9.60	8.86	8.42	8.12	7.75	7.53	7.38	7.23
144	7.59	9.85	9.09	8.64	8.33	7.95	7.73	7.58	7.42
146	7.69	10.10	9.33	8.86	8.55	8.16	7.93	7.77	7.62
148	7.80	10.36	9.56	9.09	8.77	8.37	8.13	7.97	7.81
150	7.91	10.62	9.80	9.31	8.99	8.58	8.33	8.17	8.01
155	8.17	11.29	10.42	9.90	9.55	9.12	8.85	8.68	8.51
160	8.43	11.97	11.05	10.50	10.13	9.67	9.39	9.21	9.02
165	8.70	12.67	11.69	11.11	10.72	10.23	9.94	9.75	9.55
170	8.96	13.39	12.36	11.74	11.33	10.81	10.50	10.30	10.09
175	9.22	14.13	13.04	12.39	11.95	11.41	11.08	10.87	10.65
180	9.49	14.88	13.74	13.05	12.59	12.02	11.68	11.45	11.22
185	9.75	15.66	14.45	13.73	13.25	12.64	12.28	12.04	11.80
190	10.01	16.45	15.18	14.42	13.92	13.28	12.90	12.65	12.40

Pressure Loss Tables

Pressure Loss Per 100 Feet

3½" Wirsbo hePEX and Uponor AquaPEX (50% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
30	1.58	0.57	0.53	0.50	0.48	0.46	0.45	0.44	0.43
31	1.63	0.60	0.56	0.53	0.51	0.49	0.47	0.47	0.46
32	1.69	0.64	0.59	0.56	0.54	0.52	0.50	0.49	0.48
33	1.74	0.68	0.63	0.60	0.57	0.55	0.53	0.52	0.51
34	1.79	0.72	0.66	0.63	0.61	0.58	0.56	0.55	0.54
35	1.84	0.76	0.70	0.66	0.64	0.61	0.59	0.58	0.57
36	1.90	0.80	0.74	0.70	0.67	0.64	0.63	0.61	0.60
37	1.95	0.84	0.77	0.74	0.71	0.68	0.66	0.65	0.63
38	2.00	0.88	0.81	0.77	0.75	0.71	0.69	0.68	0.66
39	2.06	0.93	0.85	0.81	0.78	0.75	0.73	0.71	0.70
40	2.11	0.97	0.89	0.85	0.82	0.78	0.76	0.75	0.73
41	2.16	1.01	0.94	0.89	0.86	0.82	0.80	0.78	0.76
42	2.21	1.06	0.98	0.93	0.90	0.86	0.83	0.82	0.80
43	2.27	1.11	1.02	0.97	0.94	0.90	0.87	0.85	0.84
44	2.32	1.16	1.07	1.01	0.98	0.93	0.91	0.89	0.87
45	2.37	1.21	1.11	1.06	1.02	0.97	0.95	0.93	0.91
46	2.42	1.26	1.16	1.10	1.06	1.01	0.98	0.97	0.95
47	2.48	1.31	1.21	1.15	1.11	1.06	1.02	1.00	0.98
48	2.53	1.36	1.25	1.19	1.15	1.10	1.07	1.04	1.02
49	2.58	1.41	1.30	1.24	1.19	1.14	1.11	1.09	1.06
50	2.64	1.46	1.35	1.28	1.24	1.18	1.15	1.13	1.10
52	2.74	1.58	1.45	1.38	1.33	1.27	1.24	1.21	1.19
54	2.85	1.69	1.56	1.48	1.43	1.36	1.33	1.30	1.27
56	2.95	1.81	1.67	1.58	1.53	1.46	1.42	1.39	1.36
58	3.06	1.93	1.78	1.69	1.63	1.56	1.51	1.48	1.45
60	3.16	2.05	1.89	1.80	1.74	1.66	1.61	1.58	1.55
62	3.27	2.18	2.01	1.91	1.85	1.76	1.71	1.68	1.64
64	3.37	2.31	2.13	2.03	1.96	1.87	1.81	1.78	1.74
66	3.48	2.45	2.26	2.15	2.07	1.98	1.92	1.88	1.85
68	3.58	2.59	2.39	2.27	2.19	2.09	2.03	1.99	1.95
70	3.69	2.73	2.52	2.39	2.31	2.20	2.14	2.10	2.06
72	3.79	2.88	2.65	2.52	2.43	2.32	2.26	2.21	2.17
74	3.90	3.03	2.79	2.65	2.56	2.44	2.37	2.33	2.28
76	4.01	3.18	2.93	2.79	2.69	2.57	2.49	2.44	2.40
78	4.11	3.33	3.08	2.92	2.82	2.69	2.62	2.57	2.51
80	4.22	3.49	3.23	3.06	2.96	2.82	2.74	2.69	2.63
82	4.32	3.66	3.38	3.21	3.10	2.95	2.87	2.81	2.76
84	4.43	3.82	3.53	3.35	3.24	3.09	3.00	2.94	2.88
86	4.53	3.99	3.69	3.50	3.38	3.23	3.13	3.07	3.01
88	4.64	4.17	3.85	3.66	3.53	3.37	3.27	3.21	3.14
90	4.74	4.35	4.01	3.81	3.68	3.51	3.41	3.34	3.28
92	4.85	4.53	4.18	3.97	3.83	3.66	3.55	3.48	3.41
94	4.95	4.71	4.35	4.13	3.98	3.80	3.70	3.62	3.55
96	5.06	4.90	4.52	4.29	4.14	3.95	3.84	3.77	3.69
98	5.17	5.09	4.70	4.46	4.30	4.11	3.99	3.91	3.83
100	5.27	5.28	4.87	4.63	4.47	4.27	4.14	4.06	3.98
102	5.38	5.48	5.06	4.80	4.63	4.42	4.30	4.21	4.13
104	5.48	5.68	5.24	4.98	4.80	4.59	4.45	4.37	4.28
106	5.59	5.88	5.43	5.16	4.98	4.75	4.61	4.52	4.43
108	5.69	6.09	5.62	5.34	5.15	4.92	4.78	4.68	4.59
110	5.80	6.30	5.81	5.52	5.33	5.09	4.94	4.85	4.75
112	5.90	6.51	6.01	5.71	5.51	5.26	5.11	5.01	4.91

Pressure Loss Per 100 Feet

3½" Wirsbo hePEX and Uponor AquaPEX (50% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
114	6.01	6.73	6.21	5.90	5.69	5.43	5.28	5.18	5.07
116	6.11	6.95	6.41	6.09	5.88	5.61	5.45	5.35	5.24
118	6.22	7.17	6.62	6.29	6.07	5.79	5.63	5.52	5.41
120	6.32	7.40	6.83	6.49	6.26	5.98	5.81	5.69	5.58
122	6.43	7.63	7.04	6.69	6.45	6.16	5.99	5.87	5.75
124	6.54	7.86	7.26	6.89	6.65	6.35	6.17	6.05	5.93
126	6.64	8.10	7.47	7.10	6.85	6.54	6.35	6.23	6.10
128	6.75	8.34	7.70	7.31	7.05	6.73	6.54	6.41	6.28
130	6.85	8.58	7.92	7.52	7.26	6.93	6.73	6.60	6.47
132	6.96	8.83	8.15	7.74	7.47	7.13	6.92	6.79	6.65
134	7.06	9.07	8.38	7.96	7.68	7.33	7.12	6.98	6.84
136	7.17	9.33	8.61	8.18	7.89	7.53	7.32	7.17	7.03
138	7.27	9.58	8.84	8.40	8.11	7.74	7.52	7.37	7.22
140	7.38	9.84	9.08	8.63	8.33	7.95	7.72	7.57	7.42
142	7.48	10.10	9.32	8.86	8.55	8.16	7.93	7.77	7.62
144	7.59	10.37	9.57	9.09	8.77	8.37	8.13	7.97	7.81
146	7.69	10.63	9.82	9.33	9.00	8.59	8.34	8.18	8.02
148	7.80	10.91	10.07	9.56	9.23	8.81	8.56	8.39	8.22
150	7.91	11.18	10.32	9.80	9.46	9.03	8.77	8.60	8.43
155	8.17	11.88	10.97	10.42	10.05	9.59	9.32	9.14	8.96
160	8.43	12.60	11.63	11.05	10.66	10.18	9.88	9.69	9.50
165	8.70	13.34	12.31	11.69	11.28	10.77	10.46	10.26	10.05
170	8.96	14.09	13.01	12.36	11.92	11.38	11.06	10.84	10.62
175	9.22	14.87	13.73	13.04	12.58	12.01	11.67	11.44	11.21
180	9.49	15.66	14.46	13.74	13.25	12.65	12.29	12.05	11.81
185	9.75	16.48	15.21	14.45	13.94	13.31	12.93	12.68	12.42
190	10.01	17.31	15.98	15.18	14.65	13.98	13.58	13.32	13.05

Pressure Loss Tables

Pressure Loss Per 100 Feet

4" Wirsbo hePEX and Uponor AquaPEX (100% Water)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
37	1.51	0.32	0.29	0.28	0.27	0.26	0.25	0.25	0.24
38	1.55	0.34	0.31	0.29	0.28	0.27	0.26	0.26	0.25
39	1.59	0.35	0.32	0.31	0.30	0.28	0.28	0.27	0.27
40	1.63	0.37	0.34	0.32	0.31	0.30	0.29	0.28	0.28
41	1.67	0.39	0.36	0.34	0.33	0.31	0.30	0.30	0.29
42	1.71	0.40	0.37	0.35	0.34	0.33	0.32	0.31	0.30
43	1.75	0.42	0.39	0.37	0.36	0.34	0.33	0.32	0.32
44	1.79	0.44	0.41	0.39	0.37	0.36	0.35	0.34	0.33
45	1.83	0.46	0.42	0.40	0.39	0.37	0.36	0.35	0.35
46	1.87	0.48	0.44	0.42	0.40	0.39	0.37	0.37	0.36
47	1.91	0.50	0.46	0.44	0.42	0.40	0.39	0.38	0.37
48	1.95	0.52	0.48	0.45	0.44	0.42	0.41	0.40	0.39
49	1.99	0.54	0.50	0.47	0.45	0.43	0.42	0.41	0.40
50	2.03	0.56	0.51	0.49	0.47	0.45	0.44	0.43	0.42
52	2.12	0.60	0.55	0.53	0.51	0.48	0.47	0.46	0.45
54	2.20	0.64	0.59	0.56	0.54	0.52	0.50	0.49	0.48
56	2.28	0.69	0.63	0.60	0.58	0.55	0.54	0.53	0.52
58	2.36	0.73	0.68	0.64	0.62	0.59	0.58	0.56	0.55
60	2.44	0.78	0.72	0.68	0.66	0.63	0.61	0.60	0.59
62	2.52	0.83	0.77	0.73	0.70	0.67	0.65	0.64	0.63
64	2.60	0.88	0.81	0.77	0.74	0.71	0.69	0.68	0.66
66	2.68	0.93	0.86	0.82	0.79	0.75	0.73	0.72	0.70
68	2.77	0.98	0.91	0.86	0.83	0.79	0.77	0.76	0.74
70	2.85	1.04	0.96	0.91	0.88	0.84	0.81	0.80	0.78
72	2.93	1.09	1.01	0.96	0.93	0.88	0.86	0.84	0.82
74	3.01	1.15	1.06	1.01	0.97	0.93	0.90	0.89	0.87
76	3.09	1.21	1.12	1.06	1.02	0.98	0.95	0.93	0.91
78	3.17	1.27	1.17	1.11	1.07	1.02	1.00	0.98	0.96
80	3.25	1.33	1.23	1.17	1.12	1.07	1.04	1.02	1.00
82	3.34	1.39	1.28	1.22	1.18	1.12	1.09	1.07	1.05
84	3.42	1.45	1.34	1.28	1.23	1.17	1.14	1.12	1.10
86	3.50	1.52	1.40	1.33	1.29	1.23	1.19	1.17	1.15
88	3.58	1.59	1.46	1.39	1.34	1.28	1.24	1.22	1.20
90	3.66	1.65	1.53	1.45	1.40	1.33	1.30	1.27	1.25
92	3.74	1.72	1.59	1.51	1.46	1.39	1.35	1.32	1.30
94	3.82	1.79	1.65	1.57	1.52	1.45	1.41	1.38	1.35
96	3.90	1.86	1.72	1.63	1.58	1.50	1.46	1.43	1.40
98	3.99	1.93	1.79	1.70	1.64	1.56	1.52	1.49	1.46
100	4.07	2.01	1.85	1.76	1.70	1.62	1.58	1.54	1.51
102	4.15	2.08	1.92	1.83	1.76	1.68	1.63	1.60	1.57
104	4.23	2.16	1.99	1.89	1.83	1.74	1.69	1.66	1.63
106	4.31	2.24	2.06	1.96	1.89	1.81	1.76	1.72	1.69
108	4.39	2.32	2.14	2.03	1.96	1.87	1.82	1.78	1.75
110	4.47	2.40	2.21	2.10	2.03	1.93	1.88	1.84	1.81
112	4.56	2.48	2.29	2.17	2.10	2.00	1.94	1.91	1.87
114	4.64	2.56	2.36	2.24	2.17	2.07	2.01	1.97	1.93
116	4.72	2.64	2.44	2.32	2.24	2.13	2.07	2.03	1.99
118	4.80	2.73	2.52	2.39	2.31	2.20	2.14	2.10	2.06
120	4.88	2.81	2.60	2.47	2.38	2.27	2.21	2.16	2.12
122	4.96	2.90	2.68	2.54	2.46	2.34	2.28	2.23	2.19
124	5.04	2.99	2.76	2.62	2.53	2.42	2.35	2.30	2.25
126	5.13	3.08	2.84	2.70	2.61	2.49	2.42	2.37	2.32

Pressure Loss Per 100 Feet

4" Wirsbo hePEX and Uponor AquaPEX (100% Water)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
128	5.21	3.17	2.93	2.78	2.68	2.56	2.49	2.44	2.39
130	5.29	3.26	3.01	2.86	2.76	2.64	2.56	2.51	2.46
132	5.37	3.36	3.10	2.94	2.84	2.71	2.63	2.58	2.53
134	5.45	3.45	3.19	3.03	2.92	2.79	2.71	2.65	2.60
136	5.53	3.55	3.27	3.11	3.00	2.87	2.78	2.73	2.67
138	5.61	3.64	3.36	3.20	3.08	2.94	2.86	2.80	2.75
140	5.69	3.74	3.45	3.28	3.17	3.02	2.94	2.88	2.82
142	5.78	3.84	3.55	3.37	3.25	3.10	3.01	2.96	2.90
144	5.86	3.94	3.64	3.46	3.34	3.18	3.09	3.03	2.97
146	5.94	4.04	3.73	3.55	3.42	3.27	3.17	3.11	3.05
148	6.02	4.15	3.83	3.64	3.51	3.35	3.25	3.19	3.13
150	6.10	4.25	3.93	3.73	3.60	3.43	3.34	3.27	3.21
155	6.30	4.52	4.17	3.96	3.82	3.65	3.55	3.48	3.41
160	6.51	4.79	4.42	4.20	4.05	3.87	3.76	3.69	3.61
165	6.71	5.07	4.68	4.45	4.29	4.10	3.98	3.90	3.82
170	6.92	5.36	4.95	4.70	4.54	4.33	4.21	4.12	4.04
175	7.12	5.66	5.22	4.96	4.79	4.57	4.44	4.35	4.26
180	7.32	5.96	5.50	5.22	5.04	4.81	4.67	4.58	4.49
185	7.53	6.27	5.79	5.50	5.30	5.06	4.92	4.82	4.72
190	7.73	6.58	6.08	5.77	5.57	5.32	5.17	5.07	4.96
195	7.93	6.91	6.38	6.06	5.85	5.58	5.42	5.31	5.21
200	8.14	7.24	6.68	6.35	6.13	5.85	5.68	5.57	5.46
205	8.34	7.58	7.00	6.65	6.41	6.12	5.95	5.83	5.71
210	8.54	7.92	7.31	6.95	6.71	6.40	6.22	6.10	5.97
215	8.75	8.28	7.64	7.26	7.00	6.69	6.49	6.37	6.24
220	8.95	8.64	7.97	7.57	7.31	6.98	6.78	6.64	6.51
225	9.15	9.00	8.31	7.89	7.62	7.27	7.06	6.93	6.79
230	9.36	9.38	8.66	8.22	7.93	7.57	7.36	7.21	7.07
235	9.56	9.76	9.01	8.56	8.26	7.88	7.66	7.51	7.36
240	9.76	10.14	9.36	8.90	8.58	8.19	7.96	7.80	7.65
245	9.97	10.54	9.73	9.24	8.92	8.51	8.27	8.11	7.94
250	10.17	10.94	10.10	9.59	9.26	8.84	8.58	8.42	8.25
260	10.58	11.76	10.86	10.32	9.95	9.50	9.23	9.05	8.87
270	10.98	12.61	11.64	11.06	10.67	10.19	9.90	9.70	9.51
280	11.39	13.49	12.45	11.83	11.42	10.90	10.59	10.38	10.17
290	11.80	14.40	13.29	12.63	12.18	11.63	11.30	11.07	10.85
300	12.20	15.33	14.15	13.44	12.97	12.38	12.03	11.79	11.56
310	12.61	16.29	15.04	14.28	13.78	13.16	12.78	12.53	12.28
320	13.02	17.27	15.94	15.15	14.62	13.95	13.55	13.29	13.02
330	13.42	18.29	16.88	16.03	15.47	14.77	14.35	14.07	13.78
340	13.83	19.32	17.84	16.95	16.35	15.61	15.16	14.86	14.57
350	14.24	20.39	18.82	17.88	17.25	16.47	16.00	15.68	15.37
360	14.64	21.48	19.83	18.84	18.17	17.35	16.85	16.52	16.19
370	15.05	22.60	20.86	19.81	19.12	18.25	17.73	17.38	17.03
380	15.46	23.74	21.91	20.82	20.09	19.17	18.63	18.26	17.89
390	15.86	24.91	22.99	21.84	21.07	20.12	19.54	19.16	18.78
400	16.27	26.10	24.09	22.89	22.09	21.08	20.48	20.08	19.68

Pressure Loss Tables

Pressure Loss Per 100 Feet

4" Wirsbo hePEX and Uponor AquaPEX (30% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
37	1.51	0.40	0.37	0.35	0.33	0.32	0.31	0.30	0.30
38	1.55	0.42	0.38	0.36	0.35	0.34	0.33	0.32	0.31
39	1.59	0.44	0.40	0.38	0.37	0.35	0.34	0.34	0.33
40	1.63	0.46	0.42	0.40	0.39	0.37	0.36	0.35	0.34
41	1.67	0.48	0.44	0.42	0.40	0.39	0.38	0.37	0.36
42	1.71	0.50	0.46	0.44	0.42	0.40	0.39	0.38	0.38
43	1.75	0.52	0.48	0.46	0.44	0.42	0.41	0.40	0.39
44	1.79	0.55	0.50	0.48	0.46	0.44	0.43	0.42	0.41
45	1.83	0.57	0.52	0.50	0.48	0.46	0.45	0.44	0.43
46	1.87	0.59	0.55	0.52	0.50	0.48	0.46	0.46	0.45
47	1.91	0.62	0.57	0.54	0.52	0.50	0.48	0.47	0.46
48	1.95	0.64	0.59	0.56	0.54	0.52	0.50	0.49	0.48
49	1.99	0.67	0.61	0.58	0.56	0.54	0.52	0.51	0.50
50	2.03	0.69	0.64	0.61	0.58	0.56	0.54	0.53	0.52
52	2.12	0.74	0.69	0.65	0.63	0.60	0.58	0.57	0.56
54	2.20	0.80	0.74	0.70	0.67	0.64	0.62	0.61	0.60
56	2.28	0.85	0.79	0.75	0.72	0.69	0.67	0.66	0.64
58	2.36	0.91	0.84	0.80	0.77	0.73	0.71	0.70	0.69
60	2.44	0.97	0.89	0.85	0.82	0.78	0.76	0.74	0.73
62	2.52	1.03	0.95	0.90	0.87	0.83	0.81	0.79	0.78
64	2.60	1.09	1.01	0.96	0.92	0.88	0.86	0.84	0.82
66	2.68	1.15	1.07	1.01	0.98	0.93	0.91	0.89	0.87
68	2.77	1.22	1.13	1.07	1.03	0.99	0.96	0.94	0.92
70	2.85	1.29	1.19	1.13	1.09	1.04	1.01	0.99	0.97
72	2.93	1.36	1.25	1.19	1.15	1.10	1.06	1.04	1.02
74	3.01	1.43	1.32	1.25	1.21	1.15	1.12	1.10	1.08
76	3.09	1.50	1.38	1.31	1.27	1.21	1.18	1.15	1.13
78	3.17	1.57	1.45	1.38	1.33	1.27	1.23	1.21	1.19
80	3.25	1.65	1.52	1.45	1.39	1.33	1.29	1.27	1.24
82	3.34	1.73	1.59	1.51	1.46	1.39	1.35	1.33	1.30
84	3.42	1.80	1.67	1.58	1.53	1.46	1.42	1.39	1.36
86	3.50	1.88	1.74	1.65	1.59	1.52	1.48	1.45	1.42
88	3.58	1.97	1.81	1.72	1.66	1.59	1.54	1.51	1.48
90	3.66	2.05	1.89	1.80	1.73	1.66	1.61	1.58	1.54
92	3.74	2.13	1.97	1.87	1.81	1.72	1.67	1.64	1.61
94	3.82	2.22	2.05	1.95	1.88	1.79	1.74	1.71	1.67
96	3.90	2.31	2.13	2.03	1.95	1.87	1.81	1.78	1.74
98	3.99	2.40	2.21	2.10	2.03	1.94	1.88	1.85	1.81
100	4.07	2.49	2.30	2.18	2.11	2.01	1.95	1.92	1.88
102	4.15	2.58	2.38	2.27	2.19	2.09	2.03	1.99	1.95
104	4.23	2.68	2.47	2.35	2.27	2.16	2.10	2.06	2.02
106	4.31	2.77	2.56	2.43	2.35	2.24	2.18	2.13	2.09
108	4.39	2.87	2.65	2.52	2.43	2.32	2.25	2.21	2.16
110	4.47	2.97	2.74	2.61	2.51	2.40	2.33	2.29	2.24
112	4.56	3.07	2.84	2.69	2.60	2.48	2.41	2.36	2.32
114	4.64	3.17	2.93	2.78	2.69	2.56	2.49	2.44	2.39
116	4.72	3.28	3.03	2.87	2.77	2.65	2.57	2.52	2.47
118	4.80	3.38	3.12	2.97	2.86	2.73	2.65	2.60	2.55
120	4.88	3.49	3.22	3.06	2.95	2.82	2.74	2.68	2.63
122	4.96	3.60	3.32	3.15	3.04	2.91	2.82	2.77	2.71
124	5.04	3.71	3.42	3.25	3.14	2.99	2.91	2.85	2.80
126	5.13	3.82	3.53	3.35	3.23	3.08	3.00	2.94	2.88

Pressure Loss Per 100 Feet

4" Wirsbo hePEX and Uponor AquaPEX (30% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
128	5.21	3.93	3.63	3.45	3.33	3.18	3.09	3.02	2.96
130	5.29	4.05	3.74	3.55	3.42	3.27	3.17	3.11	3.05
132	5.37	4.16	3.84	3.65	3.52	3.36	3.27	3.20	3.14
134	5.45	4.28	3.95	3.75	3.62	3.46	3.36	3.29	3.23
136	5.53	4.40	4.06	3.86	3.72	3.55	3.45	3.38	3.32
138	5.61	4.52	4.17	3.96	3.82	3.65	3.55	3.48	3.41
140	5.69	4.64	4.28	4.07	3.93	3.75	3.64	3.57	3.50
142	5.78	4.76	4.40	4.18	4.03	3.85	3.74	3.66	3.59
144	5.86	4.89	4.51	4.29	4.14	3.95	3.84	3.76	3.69
146	5.94	5.02	4.63	4.40	4.24	4.05	3.94	3.86	3.78
148	6.02	5.14	4.75	4.51	4.35	4.15	4.04	3.96	3.88
150	6.10	5.27	4.87	4.62	4.46	4.26	4.14	4.06	3.97
155	6.30	5.60	5.17	4.91	4.74	4.53	4.40	4.31	4.22
160	6.51	5.94	5.48	5.21	5.03	4.80	4.66	4.57	4.48
165	6.71	6.29	5.81	5.52	5.32	5.08	4.93	4.84	4.74
170	6.92	6.65	6.14	5.83	5.62	5.37	5.22	5.11	5.01
175	7.12	7.01	6.47	6.15	5.93	5.66	5.50	5.39	5.29
180	7.32	7.39	6.82	6.48	6.25	5.97	5.80	5.68	5.57
185	7.53	7.77	7.17	6.82	6.58	6.28	6.10	5.98	5.86
190	7.73	8.17	7.54	7.16	6.91	6.59	6.41	6.28	6.16
195	7.93	8.57	7.91	7.51	7.25	6.92	6.72	6.59	6.46
200	8.14	8.98	8.29	7.87	7.60	7.25	7.04	6.91	6.77
205	8.34	9.40	8.67	8.24	7.95	7.59	7.37	7.23	7.08
210	8.54	9.83	9.07	8.62	8.31	7.94	7.71	7.56	7.41
215	8.75	10.26	9.47	9.00	8.68	8.29	8.05	7.89	7.74
220	8.95	10.71	9.89	9.39	9.06	8.65	8.40	8.24	8.07
225	9.15	11.16	10.30	9.79	9.45	9.02	8.76	8.59	8.42
230	9.36	11.63	10.73	10.20	9.84	9.39	9.12	8.94	8.76
235	9.56	12.10	11.17	10.61	10.24	9.77	9.49	9.31	9.12
240	9.76	12.58	11.61	11.03	10.64	10.16	9.87	9.68	9.48
245	9.97	13.07	12.06	11.46	11.06	10.56	10.25	10.05	9.85
250	10.17	13.57	12.52	11.90	11.48	10.96	10.64	10.44	10.23
260	10.58	14.59	13.47	12.79	12.34	11.78	11.45	11.22	11.00
270	10.98	15.64	14.44	13.72	13.24	12.63	12.27	12.03	11.79
280	11.39	16.73	15.44	14.67	14.16	13.51	13.13	12.87	12.61
290	11.80	17.85	16.48	15.66	15.11	14.42	14.01	13.73	13.46
300	12.20	19.01	17.55	16.67	16.08	15.35	14.91	14.62	14.33
310	12.61	20.20	18.64	17.71	17.09	16.31	15.85	15.54	15.23
320	13.02	21.42	19.77	18.78	18.12	17.30	16.81	16.48	16.15
330	13.42	22.67	20.93	19.88	19.19	18.31	17.79	17.44	17.09
340	13.83	23.96	22.12	21.01	20.27	19.35	18.80	18.43	18.06
350	14.24	25.28	23.34	22.17	21.39	20.42	19.84	19.45	19.06
360	14.64	26.63	24.58	23.36	22.54	21.51	20.90	20.49	20.08
370	15.05	28.02	25.86	24.57	23.71	22.63	21.98	21.55	21.12
380	15.46	29.44	27.17	25.81	24.91	23.77	23.10	22.64	22.19
390	15.86	30.88	28.51	27.08	26.13	24.95	24.23	23.76	23.28
400	16.27	32.37	29.88	28.38	27.39	26.14	25.39	24.90	24.40

Pressure Loss Tables

Pressure Loss Per 100 Feet

4" Wirsbo hePEX and Uponor AquaPEX (40% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
37	1.51	0.42	0.39	0.37	0.36	0.34	0.33	0.33	0.32
38	1.55	0.45	0.41	0.39	0.38	0.36	0.35	0.34	0.34
39	1.59	0.47	0.43	0.41	0.40	0.38	0.37	0.36	0.35
40	1.63	0.49	0.45	0.43	0.41	0.40	0.38	0.38	0.37
41	1.67	0.51	0.47	0.45	0.43	0.41	0.40	0.39	0.39
42	1.71	0.54	0.50	0.47	0.45	0.43	0.42	0.41	0.40
43	1.75	0.56	0.52	0.49	0.47	0.45	0.44	0.43	0.42
44	1.79	0.58	0.54	0.51	0.49	0.47	0.46	0.45	0.44
45	1.83	0.61	0.56	0.53	0.52	0.49	0.48	0.47	0.46
46	1.87	0.64	0.59	0.56	0.54	0.51	0.50	0.49	0.48
47	1.91	0.66	0.61	0.58	0.56	0.53	0.52	0.51	0.50
48	1.95	0.69	0.63	0.60	0.58	0.55	0.54	0.53	0.52
49	1.99	0.71	0.66	0.63	0.60	0.58	0.56	0.55	0.54
50	2.03	0.74	0.68	0.65	0.63	0.60	0.58	0.57	0.56
52	2.12	0.80	0.74	0.70	0.67	0.64	0.63	0.61	0.60
54	2.20	0.85	0.79	0.75	0.72	0.69	0.67	0.66	0.64
56	2.28	0.91	0.84	0.80	0.77	0.74	0.72	0.70	0.69
58	2.36	0.98	0.90	0.86	0.83	0.79	0.77	0.75	0.74
60	2.44	1.04	0.96	0.91	0.88	0.84	0.81	0.80	0.78
62	2.52	1.10	1.02	0.97	0.93	0.89	0.87	0.85	0.83
64	2.60	1.17	1.08	1.03	0.99	0.94	0.92	0.90	0.88
66	2.68	1.24	1.14	1.09	1.05	1.00	0.97	0.95	0.93
68	2.77	1.31	1.21	1.15	1.11	1.06	1.03	1.01	0.99
70	2.85	1.38	1.27	1.21	1.17	1.12	1.08	1.06	1.04
72	2.93	1.45	1.34	1.28	1.23	1.17	1.14	1.12	1.10
74	3.01	1.53	1.41	1.34	1.29	1.24	1.20	1.18	1.15
76	3.09	1.61	1.48	1.41	1.36	1.30	1.26	1.24	1.21
78	3.17	1.69	1.56	1.48	1.43	1.36	1.32	1.30	1.27
80	3.25	1.77	1.63	1.55	1.50	1.43	1.39	1.36	1.33
82	3.34	1.85	1.71	1.62	1.57	1.49	1.45	1.42	1.39
84	3.42	1.93	1.79	1.70	1.64	1.56	1.52	1.49	1.46
86	3.50	2.02	1.87	1.77	1.71	1.63	1.59	1.55	1.52
88	3.58	2.11	1.95	1.85	1.78	1.70	1.65	1.62	1.59
90	3.66	2.20	2.03	1.93	1.86	1.78	1.72	1.69	1.66
92	3.74	2.29	2.11	2.01	1.94	1.85	1.80	1.76	1.73
94	3.82	2.38	2.20	2.09	2.02	1.92	1.87	1.83	1.80
96	3.90	2.48	2.29	2.17	2.10	2.00	1.94	1.91	1.87
98	3.99	2.57	2.38	2.26	2.18	2.08	2.02	1.98	1.94
100	4.07	2.67	2.47	2.34	2.26	2.16	2.10	2.05	2.01
102	4.15	2.77	2.56	2.43	2.34	2.24	2.17	2.13	2.09
104	4.23	2.87	2.65	2.52	2.43	2.32	2.25	2.21	2.17
106	4.31	2.98	2.75	2.61	2.52	2.40	2.33	2.29	2.24
108	4.39	3.08	2.84	2.70	2.61	2.49	2.42	2.37	2.32
110	4.47	3.19	2.94	2.79	2.70	2.57	2.50	2.45	2.40
112	4.56	3.29	3.04	2.89	2.79	2.66	2.58	2.53	2.48
114	4.64	3.40	3.14	2.98	2.88	2.75	2.67	2.62	2.57
116	4.72	3.52	3.24	3.08	2.97	2.84	2.76	2.70	2.65
118	4.80	3.63	3.35	3.18	3.07	2.93	2.85	2.79	2.74
120	4.88	3.74	3.45	3.28	3.17	3.02	2.94	2.88	2.82
122	4.96	3.86	3.56	3.38	3.27	3.12	3.03	2.97	2.91
124	5.04	3.98	3.67	3.49	3.36	3.21	3.12	3.06	3.00
126	5.13	4.10	3.78	3.59	3.47	3.31	3.21	3.15	3.09

Pressure Loss Per 100 Feet

4" Wirsbo hePEX and Uponor AquaPEX (40% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
128	5.21	4.22	3.89	3.70	3.57	3.41	3.31	3.24	3.18
130	5.29	4.34	4.01	3.81	3.67	3.51	3.41	3.34	3.27
132	5.37	4.46	4.12	3.91	3.78	3.61	3.50	3.43	3.37
134	5.45	4.59	4.24	4.03	3.88	3.71	3.60	3.53	3.46
136	5.53	4.72	4.35	4.14	3.99	3.81	3.70	3.63	3.56
138	5.61	4.85	4.47	4.25	4.10	3.91	3.80	3.73	3.65
140	5.69	4.98	4.59	4.37	4.21	4.02	3.91	3.83	3.75
142	5.78	5.11	4.72	4.48	4.32	4.13	4.01	3.93	3.85
144	5.86	5.24	4.84	4.60	4.44	4.24	4.11	4.03	3.95
146	5.94	5.38	4.97	4.72	4.55	4.35	4.22	4.14	4.06
148	6.02	5.52	5.09	4.84	4.67	4.46	4.33	4.24	4.16
150	6.10	5.66	5.22	4.96	4.79	4.57	4.44	4.35	4.26
155	6.30	6.01	5.55	5.27	5.08	4.85	4.71	4.62	4.53
160	6.51	6.37	5.88	5.59	5.39	5.15	5.00	4.90	4.80
165	6.71	6.75	6.23	5.92	5.71	5.45	5.29	5.19	5.09
170	6.92	7.13	6.58	6.25	6.03	5.76	5.59	5.48	5.37
175	7.12	7.52	6.94	6.60	6.36	6.08	5.90	5.79	5.67
180	7.32	7.92	7.31	6.95	6.71	6.40	6.22	6.10	5.97
185	7.53	8.34	7.69	7.31	7.05	6.73	6.54	6.41	6.28
190	7.73	8.76	8.08	7.68	7.41	7.07	6.87	6.74	6.60
195	7.93	9.19	8.48	8.06	7.78	7.42	7.21	7.07	6.93
200	8.14	9.63	8.89	8.44	8.15	7.78	7.56	7.41	7.26
205	8.34	10.08	9.30	8.84	8.53	8.14	7.91	7.75	7.60
210	8.54	10.54	9.73	9.24	8.92	8.51	8.27	8.11	7.94
215	8.75	11.01	10.16	9.65	9.31	8.89	8.64	8.47	8.30
220	8.95	11.49	10.60	10.07	9.72	9.28	9.01	8.84	8.66
225	9.15	11.97	11.05	10.50	10.13	9.67	9.39	9.21	9.03
230	9.36	12.47	11.51	10.94	10.55	10.07	9.78	9.59	9.40
235	9.56	12.98	11.98	11.38	10.98	10.48	10.18	9.98	9.78
240	9.76	13.49	12.45	11.83	11.42	10.90	10.59	10.38	10.17
245	9.97	14.02	12.94	12.29	11.86	11.32	11.00	10.78	10.57
250	10.17	14.55	13.43	12.76	12.31	11.75	11.42	11.19	10.97
260	10.58	15.65	14.44	13.72	13.24	12.64	12.28	12.04	11.79
270	10.98	16.78	15.49	14.71	14.20	13.55	13.16	12.91	12.65
280	11.39	17.94	16.56	15.74	15.18	14.49	14.08	13.80	13.53
290	11.80	19.15	17.68	16.79	16.20	15.47	15.02	14.73	14.44
300	12.20	20.39	18.82	17.88	17.25	16.47	16.00	15.68	15.37
310	12.61	21.66	20.00	19.00	18.33	17.50	17.00	16.66	16.33
320	13.02	22.97	21.21	20.15	19.44	18.56	18.03	17.67	17.32
330	13.42	24.32	22.45	21.33	20.58	19.64	19.08	18.71	18.33
340	13.83	25.70	23.72	22.54	21.75	20.76	20.16	19.77	19.37
350	14.24	27.12	25.03	23.78	22.94	21.90	21.28	20.86	20.44
360	14.64	28.57	26.37	25.05	24.17	23.07	22.41	21.97	21.53
370	15.05	30.05	27.74	26.35	25.43	24.27	23.58	23.12	22.65
380	15.46	31.57	29.14	27.69	26.71	25.50	24.77	24.29	23.80
390	15.86	33.13	30.58	29.05	28.03	26.76	25.99	25.48	24.97
400	16.27	34.71	32.04	30.44	29.37	28.04	27.24	26.70	26.17

Pressure Loss Tables

Pressure Loss Per 100 Feet

4" Wirsbo hePEX and Uponor AquaPEX (50% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
37	1.51	0.45	0.41	0.39	0.38	0.36	0.35	0.34	0.34
38	1.55	0.47	0.43	0.41	0.40	0.38	0.37	0.36	0.35
39	1.59	0.49	0.45	0.43	0.42	0.40	0.39	0.38	0.37
40	1.63	0.52	0.48	0.45	0.44	0.42	0.40	0.40	0.39
41	1.67	0.54	0.50	0.47	0.46	0.44	0.42	0.42	0.41
42	1.71	0.56	0.52	0.50	0.48	0.46	0.44	0.43	0.43
43	1.75	0.59	0.54	0.52	0.50	0.48	0.46	0.45	0.44
44	1.79	0.62	0.57	0.54	0.52	0.50	0.48	0.47	0.46
45	1.83	0.64	0.59	0.56	0.54	0.52	0.50	0.49	0.48
46	1.87	0.67	0.62	0.59	0.57	0.54	0.52	0.51	0.50
47	1.91	0.70	0.64	0.61	0.59	0.56	0.55	0.54	0.52
48	1.95	0.72	0.67	0.63	0.61	0.58	0.57	0.56	0.55
49	1.99	0.75	0.69	0.66	0.64	0.61	0.59	0.58	0.57
50	2.03	0.78	0.72	0.68	0.66	0.63	0.61	0.60	0.59
52	2.12	0.84	0.77	0.74	0.71	0.68	0.66	0.65	0.63
54	2.20	0.90	0.83	0.79	0.76	0.73	0.71	0.69	0.68
56	2.28	0.96	0.89	0.84	0.81	0.78	0.75	0.74	0.73
58	2.36	1.03	0.95	0.90	0.87	0.83	0.81	0.79	0.77
60	2.44	1.09	1.01	0.96	0.92	0.88	0.86	0.84	0.82
62	2.52	1.16	1.07	1.02	0.98	0.94	0.91	0.89	0.88
64	2.60	1.23	1.14	1.08	1.04	0.99	0.97	0.95	0.93
66	2.68	1.30	1.20	1.14	1.10	1.05	1.02	1.00	0.98
68	2.77	1.38	1.27	1.21	1.17	1.11	1.08	1.06	1.04
70	2.85	1.45	1.34	1.27	1.23	1.17	1.14	1.12	1.10
72	2.93	1.53	1.41	1.34	1.30	1.24	1.20	1.18	1.15
74	3.01	1.61	1.49	1.41	1.36	1.30	1.26	1.24	1.21
76	3.09	1.69	1.56	1.48	1.43	1.37	1.33	1.30	1.28
78	3.17	1.78	1.64	1.56	1.50	1.43	1.39	1.37	1.34
80	3.25	1.86	1.72	1.63	1.57	1.50	1.46	1.43	1.40
82	3.34	1.95	1.80	1.71	1.65	1.57	1.53	1.50	1.47
84	3.42	2.04	1.88	1.79	1.72	1.64	1.60	1.57	1.54
86	3.50	2.13	1.96	1.87	1.80	1.72	1.67	1.64	1.60
88	3.58	2.22	2.05	1.95	1.88	1.79	1.74	1.71	1.67
90	3.66	2.31	2.14	2.03	1.96	1.87	1.82	1.78	1.74
92	3.74	2.41	2.22	2.11	2.04	1.95	1.89	1.85	1.82
94	3.82	2.51	2.31	2.20	2.12	2.03	1.97	1.93	1.89
96	3.90	2.61	2.41	2.29	2.21	2.11	2.05	2.01	1.97
98	3.99	2.71	2.50	2.38	2.29	2.19	2.13	2.08	2.04
100	4.07	2.81	2.60	2.47	2.38	2.27	2.21	2.16	2.12
102	4.15	2.92	2.69	2.56	2.47	2.36	2.29	2.24	2.20
104	4.23	3.02	2.79	2.65	2.56	2.44	2.37	2.33	2.28
106	4.31	3.13	2.89	2.75	2.65	2.53	2.46	2.41	2.36
108	4.39	3.24	2.99	2.84	2.74	2.62	2.54	2.49	2.44
110	4.47	3.35	3.10	2.94	2.84	2.71	2.63	2.58	2.53
112	4.56	3.47	3.20	3.04	2.93	2.80	2.72	2.67	2.61
114	4.64	3.58	3.31	3.14	3.03	2.89	2.81	2.76	2.70
116	4.72	3.70	3.42	3.24	3.13	2.99	2.90	2.85	2.79
118	4.80	3.82	3.53	3.35	3.23	3.08	3.00	2.94	2.88
120	4.88	3.94	3.64	3.45	3.33	3.18	3.09	3.03	2.97
122	4.96	4.06	3.75	3.56	3.44	3.28	3.19	3.12	3.06
124	5.04	4.19	3.86	3.67	3.54	3.38	3.28	3.22	3.16
126	5.13	4.31	3.98	3.78	3.65	3.48	3.38	3.32	3.25

Pressure Loss Per 100 Feet

4" Wirsbo hePEX and Uponor AquaPEX (50% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
128	5.21	4.44	4.10	3.89	3.76	3.59	3.48	3.41	3.35
130	5.29	4.57	4.22	4.01	3.87	3.69	3.58	3.51	3.44
132	5.37	4.70	4.34	4.12	3.98	3.80	3.69	3.61	3.54
134	5.45	4.83	4.46	4.24	4.09	3.90	3.79	3.72	3.64
136	5.53	4.97	4.58	4.35	4.20	4.01	3.90	3.82	3.74
138	5.61	5.10	4.71	4.47	4.32	4.12	4.00	3.92	3.85
140	5.69	5.24	4.84	4.59	4.43	4.23	4.11	4.03	3.95
142	5.78	5.38	4.97	4.72	4.55	4.34	4.22	4.14	4.06
144	5.86	5.52	5.10	4.84	4.67	4.46	4.33	4.25	4.16
146	5.94	5.66	5.23	4.97	4.79	4.57	4.44	4.36	4.27
148	6.02	5.81	5.36	5.09	4.91	4.69	4.56	4.47	4.38
150	6.10	5.95	5.50	5.22	5.04	4.81	4.67	4.58	4.49
155	6.30	6.33	5.84	5.55	5.35	5.11	4.96	4.87	4.77
160	6.51	6.71	6.19	5.88	5.68	5.42	5.26	5.16	5.06
165	6.71	7.10	6.55	6.23	6.01	5.74	5.57	5.46	5.35
170	6.92	7.50	6.93	6.58	6.35	6.06	5.89	5.77	5.66
175	7.12	7.92	7.31	6.94	6.70	6.40	6.21	6.09	5.97
180	7.32	8.34	7.70	7.31	7.06	6.74	6.54	6.42	6.29
185	7.53	8.77	8.10	7.69	7.42	7.09	6.88	6.75	6.61
190	7.73	9.22	8.51	8.08	7.80	7.45	7.23	7.09	6.95
195	7.93	9.67	8.93	8.48	8.18	7.81	7.59	7.44	7.29
200	8.14	10.14	9.36	8.89	8.58	8.19	7.95	7.80	7.64
205	8.34	10.61	9.79	9.30	8.98	8.57	8.32	8.16	8.00
210	8.54	11.09	10.24	9.73	9.39	8.96	8.70	8.53	8.36
215	8.75	11.59	10.70	10.16	9.80	9.36	9.09	8.91	8.74
220	8.95	12.09	11.16	10.60	10.23	9.77	9.49	9.30	9.11
225	9.15	12.60	11.63	11.05	10.67	10.18	9.89	9.70	9.50
230	9.36	13.13	12.12	11.51	11.11	10.60	10.30	10.10	9.90
235	9.56	13.66	12.61	11.98	11.56	11.03	10.72	10.51	10.30
240	9.76	14.20	13.11	12.45	12.02	11.47	11.14	10.93	10.71
245	9.97	14.75	13.62	12.94	12.48	11.92	11.58	11.35	11.12
250	10.17	15.32	14.14	13.43	12.96	12.37	12.02	11.78	11.55
260	10.58	16.47	15.20	14.44	13.94	13.30	12.92	12.67	12.42
270	10.98	17.66	16.30	15.49	14.94	14.26	13.86	13.58	13.31
280	11.39	18.89	17.44	16.56	15.98	15.26	14.82	14.53	14.24
290	11.80	20.16	18.61	17.68	17.06	16.28	15.82	15.50	15.19
300	12.20	21.46	19.81	18.82	18.16	17.33	16.84	16.51	16.18
310	12.61	22.80	21.05	20.00	19.30	18.42	17.89	17.54	17.19
320	13.02	24.18	22.32	21.21	20.46	19.53	18.97	18.60	18.23
330	13.42	25.60	23.63	22.45	21.66	20.68	20.09	19.69	19.30
340	13.83	27.05	24.97	23.72	22.89	21.85	21.23	20.81	20.39
350	14.24	28.54	26.35	25.03	24.15	23.05	22.40	21.96	21.52
360	14.64	30.07	27.76	26.37	25.44	24.29	23.59	23.13	22.67
370	15.05	31.63	29.20	27.74	26.77	25.55	24.82	24.33	23.85
380	15.46	33.23	30.68	29.14	28.12	26.84	26.08	25.56	25.05
390	15.86	34.87	32.19	30.58	29.50	28.16	27.36	26.82	26.29
400	16.27	36.54	33.73	32.04	30.92	29.51	28.67	28.11	27.55

Pressure Loss Tables

Pressure Loss Per 100 Feet

¾" HDPE - SDR11 (100% Water)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.5	0.28	0.07	0.06	0.06	0.06	0.05	0.05	0.05	0.05
1.0	0.55	0.24	0.23	0.21	0.21	0.20	0.19	0.19	0.18
1.5	0.83	0.52	0.48	0.45	0.44	0.42	0.41	0.40	0.39
2.0	1.10	0.88	0.81	0.77	0.75	0.71	0.69	0.68	0.67
2.5	1.38	1.33	1.23	1.17	1.13	1.08	1.05	1.03	1.01
3.0	1.66	1.87	1.73	1.64	1.58	1.51	1.47	1.44	1.41
4.0	2.21	3.18	2.94	2.79	2.69	2.57	2.50	2.45	2.40
5.0	2.76	4.81	4.44	4.22	4.07	3.88	3.77	3.70	3.62
6.0	3.31	6.74	6.22	5.91	5.70	5.44	5.29	5.18	5.08
7.0	3.87	8.96	8.27	7.86	7.58	7.24	7.03	6.89	6.76
8.0	4.42	11.47	10.59	10.06	9.71	9.27	9.00	8.82	8.65
9.0	4.97	14.26	13.17	12.51	12.07	11.52	11.19	10.97	10.75
10.0	5.52	17.33	16.00	15.20	14.67	14.00	13.60	13.33	13.07
11.0	6.08	20.68	19.09	18.13	17.50	16.70	16.22	15.91	15.59
12.0	6.63	24.29	22.42	21.30	20.55	19.62	19.06	18.68	18.31
13.0	7.18	28.17	26.00	24.70	23.83	22.75	22.10	21.67	21.23
14.0	7.73	32.30	29.82	28.33	27.33	26.09	25.35	24.85	24.35
15.0	8.28	36.70	33.88	32.18	31.06	29.64	28.80	28.23	27.67
16.0	8.84	41.36	38.17	36.27	34.99	33.40	32.45	31.81	31.18
17.0	9.39	46.26	42.71	40.57	39.15	37.37	36.30	35.59	34.88
18.0	9.94	51.42	47.47	45.10	43.51	41.54	40.35	39.56	38.77
19.0	10.49	56.83	52.46	49.84	48.09	45.90	44.59	43.72	42.84
20.0	11.05	62.49	57.68	54.80	52.88	50.47	49.03	48.07	47.11

Pressure Loss Per 100 Feet

¾" HDPE - SDR11 (30% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.5	0.28	0.08	0.08	0.07	0.07	0.07	0.05	0.06	0.06
1.0	0.55	0.30	0.28	0.27	0.26	0.25	0.19	0.23	0.23
1.5	0.83	0.64	0.59	0.56	0.54	0.52	0.41	0.49	0.48
2.0	1.10	1.09	1.01	0.96	0.93	0.88	0.69	0.84	0.83
2.5	1.38	1.65	1.53	1.45	1.40	1.34	1.05	1.27	1.25
3.0	1.66	2.32	2.14	2.03	1.96	1.87	1.47	1.78	1.75
4.0	2.21	3.95	3.64	3.46	3.34	3.19	2.50	3.04	2.97
5.0	2.76	5.96	5.50	5.23	5.05	4.82	3.77	4.59	4.49
6.0	3.31	8.35	7.71	7.33	7.07	6.75	5.29	6.43	6.30
7.0	3.87	11.11	10.26	9.74	9.40	8.97	7.03	8.55	8.38
8.0	4.42	14.23	13.13	12.47	12.04	11.49	9.00	10.94	10.72
9.0	4.97	17.69	16.33	15.51	14.97	14.29	11.19	13.61	13.33
10.0	5.52	21.50	19.84	18.85	18.19	17.36	13.60	16.53	16.20
11.0	6.08	25.64	23.67	22.48	21.70	20.71	16.22	19.72	19.33
12.0	6.63	30.12	27.80	26.41	25.48	24.33	19.06	23.17	22.70
13.0	7.18	34.92	32.24	30.63	29.55	28.21	22.10	26.87	26.33
14.0	7.73	40.06	36.98	35.13	33.89	32.35	25.35	30.81	30.20
15.0	8.28	45.51	42.01	39.91	38.51	36.76	28.80	35.01	34.31
16.0	8.84	51.28	47.34	44.97	43.39	41.42	32.45	39.45	38.66
17.0	9.39	57.37	52.95	50.31	48.54	46.34	36.30	44.13	43.25
18.0	9.94	63.77	58.86	55.92	53.96	51.50	40.35	49.05	48.07
19.0	10.49	70.47	65.05	61.80	59.63	56.92	44.59	54.21	53.13
20.0	11.05	77.49	71.53	67.95	65.57	62.59	49.03	59.61	58.42

Pressure Loss Per 100 Feet

¾" HDPE - SDR11 (40% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.5	0.28	0.09	0.08	0.08	0.08	0.07	0.07	0.07	0.07
1.0	0.55	0.33	0.30	0.29	0.28	0.26	0.26	0.25	0.25
1.5	0.83	0.69	0.64	0.60	0.58	0.56	0.54	0.53	0.52
2.0	1.10	1.17	1.08	1.03	0.99	0.95	0.92	0.90	0.89
2.5	1.38	1.77	1.64	1.56	1.50	1.43	1.39	1.36	1.34
3.0	1.66	2.49	2.29	2.18	2.10	2.01	1.95	1.91	1.87
4.0	2.21	4.23	3.91	3.71	3.58	3.42	3.32	3.26	3.19
5.0	2.76	6.40	5.90	5.61	5.41	5.17	5.02	4.92	4.82
6.0	3.31	8.96	8.27	7.86	7.58	7.24	7.03	6.89	6.76
7.0	3.87	11.92	11.00	10.45	10.08	9.63	9.35	9.17	8.98
8.0	4.42	15.26	14.08	13.38	12.91	12.32	11.97	11.74	11.50
9.0	4.97	18.97	17.51	16.64	16.05	15.32	14.89	14.59	14.30
10.0	5.52	23.06	21.28	20.22	19.51	18.62	18.09	17.73	17.38
11.0	6.08	27.50	25.39	24.12	23.27	22.21	21.58	21.15	20.73
12.0	6.63	32.30	29.82	28.33	27.33	26.09	25.35	24.85	24.35
13.0	7.18	37.46	34.58	32.85	31.70	30.26	29.39	28.82	28.24
14.0	7.73	42.96	39.66	37.68	36.35	34.70	33.71	33.05	32.39
15.0	8.28	48.81	45.06	42.81	41.30	39.43	38.30	37.55	36.80
16.0	8.84	55.00	50.77	48.23	46.54	44.43	43.16	42.31	41.46
17.0	9.39	61.53	56.80	53.96	52.07	49.70	48.28	47.33	46.39
18.0	9.94	68.39	63.13	59.98	57.87	55.24	53.66	52.61	51.56
19.0	10.49	75.59	69.77	66.29	63.96	61.05	59.31	58.15	56.98
20.0	11.05	83.11	76.72	72.88	70.33	67.13	65.21	63.93	62.66

Pressure Loss Per 100 Feet

¾" HDPE - SDR11 (50% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
0.5	0.28	0.10	0.09	0.08	0.08	0.08	0.07	0.07	0.07
1.0	0.55	0.34	0.32	0.30	0.29	0.28	0.27	0.26	0.26
1.5	0.83	0.73	0.67	0.64	0.61	0.59	0.57	0.56	0.55
2.0	1.10	1.24	1.14	1.08	1.05	1.00	0.97	0.95	0.93
2.5	1.38	1.87	1.72	1.64	1.58	1.51	1.47	1.44	1.41
3.0	1.66	2.62	2.42	2.29	2.21	2.11	2.05	2.01	1.97
4.0	2.21	4.46	4.11	3.91	3.77	3.60	3.50	3.43	3.36
5.0	2.76	6.73	6.21	5.90	5.70	5.44	5.28	5.18	5.07
6.0	3.31	9.43	8.71	8.27	7.98	7.62	7.40	7.26	7.11
7.0	3.87	12.55	11.58	11.00	10.62	10.13	9.84	9.65	9.46
8.0	4.42	16.06	14.83	14.08	13.59	12.97	12.60	12.35	12.11
9.0	4.97	19.97	18.43	17.51	16.90	16.13	15.67	15.36	15.05
10.0	5.52	24.27	22.40	21.28	20.53	19.60	19.04	18.67	18.29
11.0	6.08	28.95	26.72	25.39	24.49	23.38	22.71	22.27	21.82
12.0	6.63	34.00	31.39	29.82	28.77	27.46	26.68	26.16	25.63
13.0	7.18	39.43	36.40	34.58	33.36	31.85	30.94	30.33	29.73
14.0	7.73	45.23	41.75	39.66	38.27	36.53	35.48	34.79	34.09
15.0	8.28	51.38	47.43	45.06	43.48	41.50	40.32	39.52	38.73
16.0	8.84	57.90	53.44	50.77	48.99	46.76	45.43	44.54	43.65
17.0	9.39	64.77	59.79	56.80	54.81	52.31	50.82	49.82	48.83
18.0	9.94	71.99	66.46	63.13	60.92	58.15	56.49	55.38	54.27
19.0	10.49	79.57	73.45	69.77	67.33	64.27	62.43	61.21	59.98
20.0	11.05	87.49	80.76	76.72	74.03	70.66	68.64	67.30	65.95

Pressure Loss Tables

Pressure Loss Per 100 Feet

1" HDPE - SDR11 (100% Water)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
1.0	0.35	0.08	0.08	0.07	0.07	0.07	0.06	0.06	0.06
1.5	0.53	0.18	0.16	0.15	0.15	0.14	0.14	0.13	0.13
2.0	0.71	0.30	0.28	0.26	0.25	0.24	0.23	0.23	0.22
2.5	0.88	0.45	0.42	0.39	0.38	0.36	0.35	0.35	0.34
3.0	1.06	0.63	0.58	0.55	0.53	0.51	0.50	0.49	0.48
4.0	1.41	1.07	0.99	0.94	0.91	0.87	0.84	0.83	0.81
5.0	1.77	1.62	1.50	1.42	1.37	1.31	1.27	1.25	1.22
6.0	2.12	2.27	2.10	1.99	1.92	1.84	1.78	1.75	1.71
7.0	2.47	3.03	2.79	2.65	2.56	2.44	2.37	2.33	2.28
8.0	2.83	3.87	3.58	3.40	3.28	3.13	3.04	2.98	2.92
9.0	3.18	4.82	4.45	4.22	4.08	3.89	3.78	3.71	3.63
10.0	3.53	5.85	5.40	5.13	4.95	4.73	4.59	4.50	4.41
11.0	3.89	6.98	6.44	6.12	5.91	5.64	5.48	5.37	5.26
12.0	4.24	8.20	7.57	7.19	6.94	6.62	6.43	6.31	6.18
13.0	4.60	9.51	8.78	8.34	8.05	7.68	7.46	7.32	7.17
14.0	4.95	10.91	10.07	9.57	9.23	8.81	8.56	8.39	8.22
15.0	5.30	12.39	11.44	10.87	10.49	10.01	9.72	9.53	9.34
16.0	5.66	13.96	12.89	12.25	11.82	11.28	10.96	10.74	10.53
17.0	6.01	15.62	14.42	13.70	13.22	12.62	12.26	12.02	11.78
18.0	6.36	17.36	16.03	15.23	14.69	14.02	13.62	13.36	13.09
19.0	6.72	19.19	17.71	16.83	16.24	15.50	15.06	14.76	14.47
20.0	7.07	21.10	19.48	18.50	17.85	17.04	16.56	16.23	15.91
21.0	7.42	23.09	21.32	20.25	19.54	18.65	18.12	17.76	17.41
22.0	7.78	25.17	23.23	22.07	21.30	20.33	19.75	19.36	18.97
23.0	8.13	27.33	25.23	23.96	23.12	22.07	21.44	21.02	20.60
24.0	8.48	29.57	27.29	25.93	25.02	23.88	23.20	22.74	22.29
25.0	8.84	31.89	29.43	27.96	26.98	25.75	25.02	24.53	24.04
26.0	9.19	34.28	31.65	30.07	29.01	27.69	26.90	26.37	25.85
27.0	9.54	36.76	33.94	32.24	31.11	29.69	28.85	28.28	27.71
28.0	9.90	39.32	36.30	34.48	33.27	31.76	30.85	30.25	29.64
29.0	10.25	41.96	38.73	36.80	35.50	33.89	32.92	32.28	31.63
30.0	10.60	44.68	41.24	39.18	37.80	36.08	35.05	34.37	33.68

Pressure Loss Per 100 Feet

1" HDPE - SDR11 (30% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
1.0	0.35	0.10	0.09	0.09	0.09	0.08	0.08	0.08	0.08
1.5	0.53	0.22	0.20	0.19	0.18	0.18	0.17	0.17	0.16
2.0	0.71	0.37	0.34	0.32	0.31	0.30	0.29	0.28	0.28
2.5	0.88	0.56	0.52	0.49	0.47	0.45	0.44	0.43	0.42
3.0	1.06	0.78	0.72	0.69	0.66	0.63	0.61	0.60	0.59
4.0	1.41	1.33	1.23	1.17	1.13	1.08	1.05	1.02	1.00
5.0	1.77	2.01	1.86	1.77	1.70	1.63	1.58	1.55	1.52
6.0	2.12	2.82	2.60	2.47	2.39	2.28	2.21	2.17	2.13
7.0	2.47	3.75	3.46	3.29	3.17	3.03	2.94	2.89	2.83
8.0	2.83	4.80	4.43	4.21	4.06	3.88	3.77	3.69	3.62
9.0	3.18	5.97	5.51	5.24	5.05	4.82	4.69	4.59	4.50
10.0	3.53	7.26	6.70	6.36	6.14	5.86	5.69	5.58	5.47
11.0	3.89	8.66	7.99	7.59	7.33	6.99	6.79	6.66	6.53
12.0	4.24	10.17	9.39	8.92	8.61	8.21	7.98	7.82	7.67
13.0	4.60	11.79	10.89	10.34	9.98	9.52	9.25	9.07	8.89
14.0	4.95	13.53	12.49	11.86	11.44	10.92	10.61	10.40	10.20
15.0	5.30	15.37	14.18	13.48	13.00	12.41	12.06	11.82	11.58
16.0	5.66	17.32	15.98	15.18	14.65	13.99	13.59	13.32	13.05
17.0	6.01	19.37	17.88	16.99	16.39	15.65	15.20	14.90	14.60
18.0	6.36	21.53	19.88	18.88	18.22	17.39	16.89	16.56	16.23
19.0	6.72	23.80	21.97	20.87	20.14	19.22	18.67	18.31	17.94
20.0	7.07	26.17	24.15	22.95	22.14	21.13	20.53	20.13	19.72
21.0	7.42	28.64	26.43	25.11	24.23	23.13	22.47	22.03	21.59
22.0	7.78	31.21	28.81	27.37	26.41	25.21	24.49	24.01	23.53
23.0	8.13	33.89	31.28	29.72	28.67	27.37	26.59	26.07	25.54
24.0	8.48	36.66	33.84	32.15	31.02	29.61	28.77	28.20	27.64
25.0	8.84	39.54	36.50	34.67	33.45	31.93	31.02	30.41	29.81
26.0	9.19	42.51	39.24	37.28	35.97	34.34	33.36	32.70	32.05
27.0	9.54	45.59	42.08	39.98	38.57	36.82	35.77	35.07	34.37
28.0	9.90	48.76	45.01	42.76	41.26	39.38	38.26	37.51	36.76
29.0	10.25	52.03	48.03	45.63	44.03	42.02	40.82	40.02	39.22
30.0	10.60	55.40	51.14	48.58	46.88	44.74	43.47	42.61	41.76

Pressure Loss Tables

Pressure Loss Per 100 Feet

1" HDPE - SDR11 (40% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
1.0	0.35	0.11	0.10	0.10	0.09	0.09	0.09	0.08	0.08
1.5	0.53	0.23	0.21	0.20	0.20	0.19	0.18	0.18	0.18
2.0	0.71	0.40	0.37	0.35	0.34	0.32	0.31	0.30	0.30
2.5	0.88	0.60	0.55	0.53	0.51	0.48	0.47	0.46	0.45
3.0	1.06	0.84	0.77	0.74	0.71	0.68	0.66	0.65	0.63
4.0	1.41	1.43	1.32	1.25	1.21	1.15	1.12	1.10	1.08
5.0	1.77	2.16	1.99	1.89	1.83	1.74	1.69	1.66	1.63
6.0	2.12	3.03	2.79	2.65	2.56	2.44	2.37	2.33	2.28
7.0	2.47	4.02	3.71	3.53	3.41	3.25	3.16	3.10	3.03
8.0	2.83	5.15	4.76	4.52	4.36	4.16	4.04	3.96	3.88
9.0	3.18	6.41	5.91	5.62	5.42	5.17	5.03	4.93	4.83
10.0	3.53	7.78	7.19	6.83	6.59	6.29	6.11	5.99	5.87
11.0	3.89	9.29	8.57	8.14	7.86	7.50	7.29	7.14	7.00
12.0	4.24	10.91	10.07	9.57	9.23	8.81	8.56	8.39	8.22
13.0	4.60	12.65	11.68	11.09	10.70	10.22	9.92	9.73	9.54
14.0	4.95	14.51	13.39	12.72	12.28	11.72	11.38	11.16	10.94
15.0	5.30	16.48	15.21	14.45	13.95	13.31	12.93	12.68	12.43
16.0	5.66	18.57	17.14	16.29	15.72	15.00	14.57	14.29	14.00
17.0	6.01	20.78	19.18	18.22	17.58	16.78	16.30	15.98	15.66
18.0	6.36	23.09	21.32	20.25	19.54	18.65	18.12	17.76	17.41
19.0	6.72	25.52	23.56	22.38	21.60	20.62	20.03	19.63	19.24
20.0	7.07	28.06	25.91	24.61	23.75	22.67	22.02	21.59	21.16
21.0	7.42	30.72	28.35	26.94	25.99	24.81	24.10	23.63	23.15
22.0	7.78	33.48	30.90	29.36	28.33	27.04	26.27	25.75	25.24
23.0	8.13	36.35	33.55	31.87	30.75	29.36	28.52	27.96	27.40
24.0	8.48	39.32	36.30	34.48	33.27	31.76	30.85	30.25	29.64
25.0	8.84	42.41	39.15	37.19	35.88	34.25	33.27	32.62	31.97
26.0	9.19	45.60	42.09	39.99	38.58	36.83	35.78	35.08	34.37
27.0	9.54	48.90	45.13	42.88	41.37	39.49	38.36	37.61	36.86
28.0	9.90	52.30	48.28	45.86	44.25	42.24	41.03	40.23	39.43
29.0	10.25	55.81	51.51	48.94	47.22	45.07	43.79	42.93	42.07
30.0	10.60	59.42	54.85	52.11	50.28	47.99	46.62	45.71	44.79

Pressure Loss Per 100 Feet

1" HDPE - SDR11 (50% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
1.0	0.35	0.12	0.11	0.10	0.10	0.09	0.09	0.09	0.09
1.5	0.53	0.25	0.23	0.21	0.21	0.20	0.19	0.19	0.18
2.0	0.71	0.42	0.39	0.37	0.35	0.34	0.33	0.32	0.31
2.5	0.88	0.63	0.58	0.55	0.53	0.51	0.49	0.49	0.48
3.0	1.06	0.88	0.82	0.77	0.75	0.71	0.69	0.68	0.67
4.0	1.41	1.50	1.39	1.32	1.27	1.22	1.18	1.16	1.13
5.0	1.77	2.27	2.10	1.99	1.92	1.84	1.78	1.75	1.71
6.0	2.12	3.18	2.94	2.79	2.69	2.57	2.50	2.45	2.40
7.0	2.47	4.24	3.91	3.71	3.58	3.42	3.32	3.26	3.19
8.0	2.83	5.42	5.01	4.76	4.59	4.38	4.26	4.17	4.09
9.0	3.18	6.74	6.22	5.91	5.71	5.45	5.29	5.19	5.08
10.0	3.53	8.19	7.56	7.19	6.93	6.62	6.43	6.30	6.18
11.0	3.89	9.77	9.02	8.57	8.27	7.89	7.67	7.52	7.37
12.0	4.24	11.48	10.60	10.07	9.72	9.27	9.01	8.83	8.66
13.0	4.60	13.31	12.29	11.68	11.27	10.75	10.45	10.24	10.04
14.0	4.95	15.27	14.10	13.39	12.92	12.33	11.98	11.75	11.51
15.0	5.30	17.35	16.02	15.21	14.68	14.01	13.61	13.35	13.08
16.0	5.66	19.55	18.05	17.14	16.54	15.79	15.34	15.04	14.74
17.0	6.01	21.87	20.19	19.18	18.51	17.66	17.16	16.82	16.49
18.0	6.36	24.31	22.44	21.32	20.57	19.63	19.07	18.70	18.33
19.0	6.72	26.87	24.80	23.56	22.73	21.70	21.08	20.67	20.25
20.0	7.07	29.54	27.27	25.91	25.00	23.86	23.18	22.72	22.27
21.0	7.42	32.33	29.85	28.35	27.36	26.11	25.37	24.87	24.37
22.0	7.78	35.24	32.53	30.90	29.82	28.46	27.65	27.11	26.56
23.0	8.13	38.26	35.32	33.55	32.37	30.90	30.02	29.43	28.84
24.0	8.48	41.39	38.21	36.30	35.02	33.43	32.48	31.84	31.20
25.0	8.84	44.64	41.21	39.15	37.77	36.05	35.02	34.34	33.65
26.0	9.19	48.00	44.31	42.09	40.61	38.77	37.66	36.92	36.18
27.0	9.54	51.47	47.51	45.13	43.55	41.57	40.38	39.59	38.80
28.0	9.90	55.05	50.82	48.28	46.58	44.46	43.19	42.35	41.50
29.0	10.25	58.74	54.23	51.51	49.71	47.45	46.09	45.19	44.28
30.0	10.60	62.55	57.74	54.85	52.92	50.52	49.07	48.11	47.15

Pressure Loss Tables

Pressure Loss Per 100 Feet

1¼" HDPE - SDR11 (100% Water)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
2.0	0.44	0.10	0.09	0.08	0.08	0.08	0.08	0.07	0.07
2.5	0.55	0.14	0.13	0.13	0.12	0.12	0.11	0.11	0.11
3.0	0.66	0.20	0.19	0.18	0.17	0.16	0.16	0.16	0.15
4.0	0.89	0.34	0.32	0.30	0.29	0.28	0.27	0.27	0.26
5.0	1.11	0.52	0.48	0.46	0.44	0.42	0.41	0.40	0.39
6.0	1.33	0.73	0.67	0.64	0.62	0.59	0.57	0.56	0.55
7.0	1.55	0.97	0.90	0.85	0.82	0.78	0.76	0.75	0.73
8.0	1.77	1.24	1.15	1.09	1.05	1.00	0.97	0.96	0.94
9.0	1.99	1.55	1.43	1.35	1.31	1.25	1.21	1.19	1.16
10.0	2.22	1.88	1.73	1.65	1.59	1.52	1.47	1.44	1.42
11.0	2.44	2.24	2.07	1.96	1.90	1.81	1.76	1.72	1.69
12.0	2.66	2.63	2.43	2.31	2.23	2.12	2.06	2.02	1.98
13.0	2.88	3.05	2.82	2.68	2.58	2.46	2.39	2.35	2.30
14.0	3.10	3.50	3.23	3.07	2.96	2.83	2.75	2.69	2.64
15.0	3.32	3.98	3.67	3.49	3.36	3.21	3.12	3.06	3.00
16.0	3.54	4.48	4.13	3.93	3.79	3.62	3.51	3.45	3.38
17.0	3.77	5.01	4.63	4.39	4.24	4.05	3.93	3.85	3.78
18.0	3.99	5.57	5.14	4.88	4.71	4.50	4.37	4.28	4.20
19.0	4.21	6.16	5.68	5.40	5.21	4.97	4.83	4.74	4.64
20.0	4.43	6.77	6.25	5.94	5.73	5.47	5.31	5.21	5.10
21.0	4.65	7.41	6.84	6.50	6.27	5.98	5.81	5.70	5.58
22.0	4.87	8.07	7.45	7.08	6.83	6.52	6.33	6.21	6.09
23.0	5.09	8.77	8.09	7.69	7.42	7.08	6.88	6.74	6.61
24.0	5.32	9.48	8.75	8.32	8.02	7.66	7.44	7.30	7.15
25.0	5.54	10.23	9.44	8.97	8.65	8.26	8.02	7.87	7.71
26.0	5.76	11.00	10.15	9.64	9.31	8.88	8.63	8.46	8.29
27.0	5.98	11.79	10.89	10.34	9.98	9.52	9.25	9.07	8.89
28.0	6.20	12.61	11.64	11.06	10.67	10.19	9.90	9.70	9.51
29.0	6.42	13.46	12.42	11.80	11.39	10.87	10.56	10.35	10.15
30.0	6.65	14.33	13.23	12.57	12.13	11.57	11.24	11.02	10.80
31.0	6.87	15.23	14.06	13.35	12.88	12.30	11.95	11.71	11.48
32.0	7.09	16.15	14.91	14.16	13.66	13.04	12.67	12.42	12.17
33.0	7.31	17.09	15.78	14.99	14.46	13.81	13.41	13.15	12.89
34.0	7.53	18.06	16.68	15.84	15.29	14.59	14.17	13.90	13.62
35.0	7.75	19.06	17.59	16.71	16.13	15.39	14.95	14.66	14.37
36.0	7.97	20.08	18.53	17.61	16.99	16.22	15.75	15.45	15.14
37.0	8.20	21.12	19.50	18.52	17.87	17.06	16.57	16.25	15.92
38.0	8.42	22.19	20.48	19.46	18.78	17.92	17.41	17.07	16.73
39.0	8.64	23.28	21.49	20.42	19.70	18.81	18.27	17.91	17.55
40.0	8.86	24.40	22.52	21.40	20.65	19.71	19.15	18.77	18.39
41.0	9.08	25.54	23.58	22.40	21.61	20.63	20.04	19.65	19.25
42.0	9.30	26.71	24.65	23.42	22.60	21.57	20.95	20.54	20.13
43.0	9.52	27.89	25.75	24.46	23.60	22.53	21.89	21.46	21.03
44.0	9.75	29.11	26.87	25.52	24.63	23.51	22.84	22.39	21.94
45.0	9.97	30.34	28.01	26.61	25.67	24.51	23.81	23.34	22.87
46.0	10.19	31.60	29.17	27.71	26.74	25.52	24.79	24.31	23.82
47.0	10.41	32.88	30.35	28.84	27.82	26.56	25.80	25.29	24.79
48.0	10.63	34.19	31.56	29.98	28.93	27.61	26.83	26.30	25.77

Pressure Loss Per 100 Feet

1¼" HDPE - SDR11 (30% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
2.0	0.44	0.12	0.11	0.10	0.10	0.10	0.09	0.09	0.09
2.5	0.55	0.18	0.17	0.16	0.15	0.14	0.14	0.14	0.14
3.0	0.66	0.25	0.23	0.22	0.21	0.20	0.20	0.19	0.19
4.0	0.89	0.43	0.39	0.37	0.36	0.35	0.34	0.33	0.32
5.0	1.11	0.65	0.60	0.57	0.55	0.52	0.51	0.50	0.49
6.0	1.33	0.90	0.84	0.79	0.77	0.73	0.71	0.70	0.68
7.0	1.55	1.20	1.11	1.06	1.02	0.97	0.94	0.93	0.91
8.0	1.77	1.54	1.42	1.35	1.30	1.24	1.21	1.19	1.16
9.0	1.99	1.92	1.77	1.68	1.62	1.55	1.50	1.47	1.44
10.0	2.22	2.33	2.15	2.04	1.97	1.88	1.83	1.79	1.76
11.0	2.44	2.78	2.56	2.44	2.35	2.24	2.18	2.14	2.09
12.0	2.66	3.26	3.01	2.86	2.76	2.63	2.56	2.51	2.46
13.0	2.88	3.78	3.49	3.32	3.20	3.06	2.97	2.91	2.85
14.0	3.10	4.34	4.00	3.80	3.67	3.50	3.40	3.34	3.27
15.0	3.32	4.93	4.55	4.32	4.17	3.98	3.87	3.79	3.72
16.0	3.54	5.55	5.13	4.87	4.70	4.49	4.36	4.27	4.19
17.0	3.77	6.21	5.74	5.45	5.26	5.02	4.88	4.78	4.68
18.0	3.99	6.91	6.38	6.06	5.84	5.58	5.42	5.31	5.21
19.0	4.21	7.63	7.05	6.69	6.46	6.17	5.99	5.87	5.75
20.0	4.43	8.39	7.75	7.36	7.10	6.78	6.59	6.46	6.33
21.0	4.65	9.19	8.48	8.06	7.77	7.42	7.21	7.07	6.92
22.0	4.87	10.01	9.24	8.78	8.47	8.09	7.86	7.70	7.55
23.0	5.09	10.87	10.03	9.53	9.20	8.78	8.53	8.36	8.19
24.0	5.32	11.76	10.86	10.31	9.95	9.50	9.23	9.05	8.87
25.0	5.54	12.68	11.71	11.12	10.73	10.24	9.95	9.76	9.56
26.0	5.76	13.64	12.59	11.96	11.54	11.01	10.70	10.49	10.28
27.0	5.98	14.62	13.50	12.82	12.37	11.81	11.47	11.25	11.02
28.0	6.20	15.64	14.44	13.72	13.23	12.63	12.27	12.03	11.79
29.0	6.42	16.69	15.41	14.64	14.12	13.48	13.10	12.84	12.58
30.0	6.65	17.77	16.40	15.58	15.04	14.35	13.94	13.67	13.40
31.0	6.87	18.88	17.43	16.56	15.98	15.25	14.81	14.52	14.23
32.0	7.09	20.02	18.48	17.56	16.94	16.17	15.71	15.40	15.09
33.0	7.31	21.20	19.57	18.59	17.94	17.12	16.63	16.31	15.98
34.0	7.53	22.40	20.68	19.64	18.95	18.09	17.58	17.23	16.89
35.0	7.75	23.63	21.82	20.73	20.00	19.09	18.54	18.18	17.82
36.0	7.97	24.90	22.98	21.83	21.07	20.11	19.54	19.15	18.77
37.0	8.20	26.19	24.18	22.97	22.16	21.16	20.55	20.15	19.75
38.0	8.42	27.52	25.40	24.13	23.28	22.23	21.59	21.17	20.74
39.0	8.64	28.87	26.65	25.32	24.43	23.32	22.65	22.21	21.77
40.0	8.86	30.26	27.93	26.53	25.60	24.44	23.74	23.27	22.81
41.0	9.08	31.67	29.24	27.77	26.80	25.58	24.85	24.36	23.88
42.0	9.30	33.12	30.57	29.04	28.02	26.75	25.98	25.47	24.96
43.0	9.52	34.59	31.93	30.33	29.27	27.94	27.14	26.61	26.07
44.0	9.75	36.09	33.32	31.65	30.54	29.15	28.32	27.76	27.21
45.0	9.97	37.62	34.73	32.99	31.84	30.39	29.52	28.94	28.36
46.0	10.19	39.18	36.17	34.36	33.16	31.65	30.75	30.14	29.54
47.0	10.41	40.78	37.64	35.76	34.50	32.93	31.99	31.37	30.74
48.0	10.63	42.39	39.13	37.18	35.87	34.24	33.26	32.61	31.96

Pressure Loss Tables

Pressure Loss Per 100 Feet

1¼" HDPE - SDR11 (40% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
2.0	0.44	0.13	0.12	0.11	0.11	0.10	0.10	0.10	0.10
2.5	0.55	0.19	0.18	0.17	0.16	0.16	0.15	0.15	0.14
3.0	0.66	0.27	0.25	0.24	0.23	0.22	0.21	0.21	0.20
4.0	0.89	0.46	0.42	0.40	0.39	0.37	0.36	0.35	0.35
5.0	1.11	0.69	0.64	0.61	0.59	0.56	0.54	0.53	0.52
6.0	1.33	0.97	0.90	0.85	0.82	0.78	0.76	0.75	0.73
7.0	1.55	1.29	1.19	1.13	1.09	1.04	1.01	0.99	0.97
8.0	1.77	1.65	1.53	1.45	1.40	1.33	1.30	1.27	1.25
9.0	1.99	2.05	1.90	1.80	1.74	1.66	1.61	1.58	1.55
10.0	2.22	2.50	2.31	2.19	2.11	2.02	1.96	1.92	1.88
11.0	2.44	2.98	2.75	2.61	2.52	2.41	2.34	2.29	2.25
12.0	2.66	3.50	3.23	3.07	2.96	2.83	2.75	2.69	2.64
13.0	2.88	4.06	3.75	3.56	3.43	3.28	3.18	3.12	3.06
14.0	3.10	4.65	4.30	4.08	3.94	3.76	3.65	3.58	3.51
15.0	3.32	5.29	4.88	4.64	4.47	4.27	4.15	4.07	3.99
16.0	3.54	5.96	5.50	5.22	5.04	4.81	4.67	4.58	4.49
17.0	3.77	6.66	6.15	5.84	5.64	5.38	5.23	5.13	5.02
18.0	3.99	7.41	6.84	6.50	6.27	5.98	5.81	5.70	5.58
19.0	4.21	8.19	7.56	7.18	6.93	6.61	6.42	6.30	6.17
20.0	4.43	9.00	8.31	7.89	7.62	7.27	7.06	6.92	6.79
21.0	4.65	9.85	9.09	8.64	8.34	7.96	7.73	7.58	7.43
22.0	4.87	10.74	9.91	9.42	9.09	8.67	8.43	8.26	8.09
23.0	5.09	11.66	10.76	10.22	9.86	9.42	9.15	8.97	8.79
24.0	5.32	12.61	11.64	11.06	10.67	10.19	9.90	9.70	9.51
25.0	5.54	13.60	12.56	11.93	11.51	10.99	10.67	10.46	10.25
26.0	5.76	14.63	13.50	12.83	12.38	11.81	11.48	11.25	11.03
27.0	5.98	15.68	14.48	13.75	13.27	12.67	12.31	12.06	11.82
28.0	6.20	16.78	15.49	14.71	14.20	13.55	13.16	12.90	12.65
29.0	6.42	17.90	16.52	15.70	15.15	14.46	14.05	13.77	13.49
30.0	6.65	19.06	17.59	16.71	16.13	15.39	14.95	14.66	14.37
31.0	6.87	20.25	18.69	17.76	17.14	16.36	15.89	15.58	15.27
32.0	7.09	21.48	19.82	18.83	18.17	17.35	16.85	16.52	16.19
33.0	7.31	22.74	20.99	19.94	19.24	18.36	17.84	17.49	17.14
34.0	7.53	24.03	22.18	21.07	20.33	19.41	18.85	18.48	18.11
35.0	7.75	25.35	23.40	22.23	21.45	20.47	19.89	19.50	19.11
36.0	7.97	26.71	24.65	23.42	22.60	21.57	20.95	20.54	20.13
37.0	8.20	28.09	25.93	24.64	23.77	22.69	22.04	21.61	21.18
38.0	8.42	29.52	27.24	25.88	24.97	23.84	23.16	22.70	22.25
39.0	8.64	30.97	28.59	27.16	26.20	25.01	24.30	23.82	23.35
40.0	8.86	32.45	29.96	28.46	27.46	26.21	25.46	24.96	24.46
41.0	9.08	33.97	31.36	29.79	28.74	27.44	26.65	26.13	25.61
42.0	9.30	35.52	32.79	31.15	30.05	28.69	27.87	27.32	26.78
43.0	9.52	37.10	34.25	32.53	31.39	29.96	29.11	28.54	27.97
44.0	9.75	38.71	35.73	33.95	32.76	31.27	30.37	29.78	29.18
45.0	9.97	40.35	37.25	35.39	34.15	32.59	31.66	31.04	30.42
46.0	10.19	42.03	38.80	36.86	35.56	33.95	32.98	32.33	31.68
47.0	10.41	43.73	40.37	38.35	37.01	35.32	34.31	33.64	32.97
48.0	10.63	45.47	41.97	39.88	38.48	36.73	35.68	34.98	34.28

Pressure Loss Per 100 Feet

1¼" HDPE - SDR11 (50% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
2.0	0.44	0.13	0.12	0.12	0.11	0.11	0.11	0.10	0.10
2.5	0.55	0.20	0.19	0.18	0.17	0.16	0.16	0.16	0.15
3.0	0.66	0.28	0.26	0.25	0.24	0.23	0.22	0.22	0.21
4.0	0.89	0.48	0.45	0.42	0.41	0.39	0.38	0.37	0.36
5.0	1.11	0.73	0.67	0.64	0.62	0.59	0.57	0.56	0.55
6.0	1.33	1.02	0.94	0.90	0.86	0.83	0.80	0.79	0.77
7.0	1.55	1.36	1.25	1.19	1.15	1.10	1.07	1.05	1.02
8.0	1.77	1.74	1.61	1.53	1.47	1.41	1.36	1.34	1.31
9.0	1.99	2.16	2.00	1.90	1.83	1.75	1.70	1.66	1.63
10.0	2.22	2.63	2.43	2.31	2.22	2.12	2.06	2.02	1.98
11.0	2.44	3.14	2.89	2.75	2.65	2.53	2.46	2.41	2.36
12.0	2.66	3.68	3.40	3.23	3.12	2.97	2.89	2.83	2.78
13.0	2.88	4.27	3.94	3.75	3.61	3.45	3.35	3.29	3.22
14.0	3.10	4.90	4.52	4.30	4.14	3.96	3.84	3.77	3.69
15.0	3.32	5.57	5.14	4.88	4.71	4.50	4.37	4.28	4.20
16.0	3.54	6.27	5.79	5.50	5.31	5.07	4.92	4.82	4.73
17.0	3.77	7.02	6.48	6.15	5.94	5.67	5.50	5.40	5.29
18.0	3.99	7.80	7.20	6.84	6.60	6.30	6.12	6.00	5.88
19.0	4.21	8.62	7.96	7.56	7.29	6.96	6.76	6.63	6.50
20.0	4.43	9.48	8.75	8.31	8.02	7.65	7.44	7.29	7.14
21.0	4.65	10.37	9.57	9.09	8.78	8.38	8.14	7.98	7.82
22.0	4.87	11.30	10.43	9.91	9.56	9.13	8.87	8.69	8.52
23.0	5.09	12.27	11.33	10.76	10.38	9.91	9.63	9.44	9.25
24.0	5.32	13.28	12.26	11.64	11.23	10.72	10.42	10.21	10.01
25.0	5.54	14.32	13.22	12.56	12.12	11.57	11.23	11.01	10.79
26.0	5.76	15.40	14.21	13.50	13.03	12.44	12.08	11.84	11.61
27.0	5.98	16.51	15.24	14.48	13.97	13.33	12.95	12.70	12.45
28.0	6.20	17.66	16.30	15.49	14.94	14.26	13.86	13.58	13.31
29.0	6.42	18.84	17.39	16.52	15.94	15.22	14.78	14.49	14.21
30.0	6.65	20.06	18.52	17.59	16.98	16.20	15.74	15.43	15.12
31.0	6.87	21.32	19.68	18.69	18.04	17.22	16.73	16.40	16.07
32.0	7.09	22.61	20.87	19.82	19.13	18.26	17.74	17.39	17.04
33.0	7.31	23.93	22.09	20.99	20.25	19.33	18.78	18.41	18.04
34.0	7.53	25.29	23.35	22.18	21.40	20.43	19.84	19.45	19.07
35.0	7.75	26.68	24.63	23.40	22.58	21.55	20.94	20.53	20.12
36.0	7.97	28.11	25.95	24.65	23.79	22.71	22.06	21.62	21.19
37.0	8.20	29.57	27.30	25.93	25.02	23.89	23.20	22.75	22.29
38.0	8.42	31.07	28.68	27.24	26.29	25.09	24.38	23.90	23.42
39.0	8.64	32.60	30.09	28.59	27.58	26.33	25.58	25.08	24.57
40.0	8.86	34.16	31.53	29.96	28.91	27.59	26.80	26.28	25.75
41.0	9.08	35.76	33.01	31.36	30.26	28.88	28.06	27.51	26.96
42.0	9.30	37.39	34.51	32.79	31.64	30.20	29.34	28.76	28.18
43.0	9.52	39.05	36.05	34.25	33.04	31.54	30.64	30.04	29.44
44.0	9.75	40.75	37.61	35.73	34.48	32.91	31.97	31.34	30.72
45.0	9.97	42.48	39.21	37.25	35.94	34.31	33.33	32.68	32.02
46.0	10.19	44.24	40.84	38.80	37.43	35.73	34.71	34.03	33.35
47.0	10.41	46.04	42.50	40.37	38.95	37.18	36.12	35.41	34.70
48.0	10.63	47.87	44.18	41.97	40.50	38.66	37.56	36.82	36.08

Pressure Loss Tables

uponor

Pressure Loss Per 100 Feet

1½" HDPE - SDR11 (100% Water)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
3.0	0.51	0.11	0.10	0.09	0.09	0.08	0.08	0.08	0.08
4.0	0.68	0.18	0.17	0.16	0.15	0.14	0.14	0.14	0.13
5.0	0.85	0.27	0.25	0.24	0.23	0.22	0.21	0.21	0.20
6.0	1.01	0.38	0.35	0.33	0.32	0.31	0.30	0.29	0.29
7.0	1.18	0.50	0.46	0.44	0.43	0.41	0.40	0.39	0.38
8.0	1.35	0.64	0.60	0.57	0.55	0.52	0.51	0.50	0.49
9.0	1.52	0.80	0.74	0.70	0.68	0.65	0.63	0.62	0.60
10.0	1.69	0.97	0.90	0.85	0.82	0.79	0.76	0.75	0.73
11.0	1.86	1.16	1.07	1.02	0.98	0.94	0.91	0.89	0.88
12.0	2.03	1.37	1.26	1.20	1.16	1.10	1.07	1.05	1.03
13.0	2.20	1.58	1.46	1.39	1.34	1.28	1.24	1.22	1.19
14.0	2.37	1.82	1.68	1.59	1.54	1.47	1.42	1.40	1.37
15.0	2.54	2.06	1.90	1.81	1.75	1.67	1.62	1.59	1.56
16.0	2.71	2.32	2.15	2.04	1.97	1.88	1.82	1.79	1.75
17.0	2.88	2.60	2.40	2.28	2.20	2.10	2.04	2.00	1.96
18.0	3.04	2.89	2.67	2.53	2.45	2.33	2.27	2.22	2.18
19.0	3.21	3.19	2.95	2.80	2.70	2.58	2.51	2.46	2.41
20.0	3.38	3.51	3.24	3.08	2.97	2.84	2.76	2.70	2.65
21.0	3.55	3.84	3.55	3.37	3.25	3.11	3.02	2.96	2.90
22.0	3.72	4.19	3.87	3.67	3.55	3.38	3.29	3.22	3.16
23.0	3.89	4.55	4.20	3.99	3.85	3.67	3.57	3.50	3.43
24.0	4.06	4.92	4.54	4.32	4.16	3.98	3.86	3.79	3.71
25.0	4.23	5.31	4.90	4.65	4.49	4.29	4.16	4.08	4.00
26.0	4.40	5.71	5.27	5.00	4.83	4.61	4.48	4.39	4.30
27.0	4.57	6.12	5.65	5.37	5.18	4.94	4.80	4.71	4.61
28.0	4.74	6.55	6.04	5.74	5.54	5.29	5.14	5.04	4.93
29.0	4.91	6.98	6.45	6.13	5.91	5.64	5.48	5.37	5.27
30.0	5.07	7.44	6.86	6.52	6.29	6.01	5.84	5.72	5.61
31.0	5.24	7.90	7.29	6.93	6.69	6.38	6.20	6.08	5.96
32.0	5.41	8.38	7.74	7.35	7.09	6.77	6.58	6.45	6.32
33.0	5.58	8.87	8.19	7.78	7.51	7.16	6.96	6.82	6.69
34.0	5.75	9.37	8.65	8.22	7.93	7.57	7.36	7.21	7.07
35.0	5.92	9.89	9.13	8.67	8.37	7.99	7.76	7.61	7.46
36.0	6.09	10.42	9.62	9.14	8.82	8.42	8.18	8.02	7.86
37.0	6.26	10.96	10.12	9.61	9.28	8.85	8.60	8.43	8.26
38.0	6.43	11.52	10.63	10.10	9.74	9.30	9.04	8.86	8.68
39.0	6.60	12.08	11.15	10.60	10.22	9.76	9.48	9.29	9.11
40.0	6.77	12.66	11.69	11.10	10.71	10.23	9.94	9.74	9.55
41.0	6.94	13.25	12.23	11.62	11.22	10.71	10.40	10.20	9.99
42.0	7.10	13.86	12.79	12.15	11.73	11.19	10.87	10.66	10.45
43.0	7.27	14.48	13.36	12.69	12.25	11.69	11.36	11.13	10.91
44.0	7.44	15.10	13.94	13.25	12.78	12.20	11.85	11.62	11.39
45.0	7.61	15.75	14.53	13.81	13.32	12.72	12.35	12.11	11.87
46.0	7.78	16.40	15.14	14.38	13.88	13.25	12.87	12.61	12.36
47.0	7.95	17.06	15.75	14.96	14.44	13.78	13.39	13.13	12.86
48.0	8.12	17.74	16.38	15.56	15.01	14.33	13.92	13.65	13.37
49.0	8.29	18.43	17.01	16.16	15.60	14.89	14.46	14.18	13.90
50.0	8.46	19.13	17.66	16.78	16.19	15.45	15.01	14.72	14.42
52.0	8.80	20.57	18.99	18.04	17.41	16.62	16.14	15.83	15.51
54.0	9.13	22.06	20.36	19.35	18.67	17.82	17.31	16.97	16.63
56.0	9.47	23.60	21.78	20.69	19.97	19.06	18.51	18.15	17.79
58.0	9.81	25.18	23.24	22.08	21.31	20.34	19.76	19.37	18.98
60.0	10.15	26.81	24.75	23.51	22.69	21.65	21.04	20.62	20.21

Pressure Loss Per 100 Feet

1½" HDPE - SDR11 (30% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
3.0	0.51	0.13	0.12	0.11	0.11	0.11	0.10	0.10	0.10
4.0	0.68	0.22	0.20	0.19	0.19	0.18	0.17	0.17	0.17
5.0	0.85	0.34	0.31	0.29	0.28	0.27	0.26	0.26	0.25
6.0	1.01	0.47	0.43	0.41	0.40	0.38	0.37	0.36	0.35
7.0	1.18	0.62	0.58	0.55	0.53	0.50	0.49	0.48	0.47
8.0	1.35	0.80	0.74	0.70	0.68	0.65	0.63	0.62	0.60
9.0	1.52	0.99	0.92	0.87	0.84	0.80	0.78	0.76	0.75
10.0	1.69	1.21	1.12	1.06	1.02	0.98	0.95	0.93	0.91
11.0	1.86	1.44	1.33	1.26	1.22	1.16	1.13	1.11	1.09
12.0	2.03	1.69	1.56	1.48	1.43	1.37	1.33	1.30	1.28
13.0	2.20	1.96	1.81	1.72	1.66	1.59	1.54	1.51	1.48
14.0	2.37	2.25	2.08	1.97	1.91	1.82	1.77	1.73	1.70
15.0	2.54	2.56	2.36	2.24	2.16	2.07	2.01	1.97	1.93
16.0	2.71	2.88	2.66	2.53	2.44	2.33	2.26	2.22	2.17
17.0	2.88	3.22	2.98	2.83	2.73	2.60	2.53	2.48	2.43
18.0	3.04	3.58	3.31	3.14	3.03	2.89	2.81	2.76	2.70
19.0	3.21	3.96	3.66	3.47	3.35	3.20	3.11	3.05	2.99
20.0	3.38	4.36	4.02	3.82	3.69	3.52	3.42	3.35	3.28
21.0	3.55	4.77	4.40	4.18	4.03	3.85	3.74	3.67	3.59
22.0	3.72	5.20	4.80	4.56	4.40	4.20	4.08	4.00	3.92
23.0	3.89	5.64	5.21	4.95	4.77	4.56	4.43	4.34	4.25
24.0	4.06	6.10	5.63	5.35	5.16	4.93	4.79	4.69	4.60
25.0	4.23	6.58	6.08	5.77	5.57	5.32	5.16	5.06	4.96
26.0	4.40	7.08	6.53	6.21	5.99	5.72	5.55	5.44	5.33
27.0	4.57	7.59	7.00	6.65	6.42	6.13	5.95	5.84	5.72
28.0	4.74	8.12	7.49	7.12	6.87	6.56	6.37	6.24	6.12
29.0	4.91	8.66	7.99	7.60	7.33	7.00	6.80	6.66	6.53
30.0	5.07	9.22	8.51	8.09	7.80	7.45	7.24	7.09	6.95
31.0	5.24	9.80	9.04	8.59	8.29	7.91	7.69	7.54	7.39
32.0	5.41	10.39	9.59	9.11	8.79	8.39	8.15	7.99	7.83
33.0	5.58	11.00	10.15	9.65	9.31	8.88	8.63	8.46	8.29
34.0	5.75	11.62	10.73	10.19	9.84	9.39	9.12	8.94	8.76
35.0	5.92	12.26	11.32	10.76	10.38	9.91	9.62	9.43	9.25
36.0	6.09	12.92	11.93	11.33	10.93	10.44	10.14	9.94	9.74
37.0	6.26	13.59	12.55	11.92	11.50	10.98	10.67	10.46	10.25
38.0	6.43	14.28	13.18	12.52	12.08	11.53	11.20	10.98	10.77
39.0	6.60	14.98	13.83	13.14	12.68	12.10	11.76	11.53	11.30
40.0	6.77	15.70	14.49	13.77	13.29	12.68	12.32	12.08	11.84
41.0	6.94	16.44	15.17	14.41	13.91	13.27	12.90	12.64	12.39
42.0	7.10	17.18	15.86	15.07	14.54	13.88	13.48	13.22	12.95
43.0	7.27	17.95	16.57	15.74	15.19	14.50	14.08	13.81	13.53
44.0	7.44	18.73	17.29	16.42	15.85	15.13	14.70	14.41	14.12
45.0	7.61	19.52	18.02	17.12	16.52	15.77	15.32	15.02	14.72
46.0	7.78	20.33	18.77	17.83	17.21	16.42	15.95	15.64	15.33
47.0	7.95	21.16	19.53	18.56	17.90	17.09	16.60	16.28	15.95
48.0	8.12	22.00	20.31	19.29	18.62	17.77	17.26	16.92	16.58
49.0	8.29	22.86	21.10	20.04	19.34	18.46	17.93	17.58	17.23
50.0	8.46	23.73	21.90	20.81	20.08	19.16	18.62	18.25	17.89
52.0	8.80	25.51	23.55	22.37	21.59	20.61	20.02	19.62	19.23
54.0	9.13	27.36	25.25	23.99	23.15	22.10	21.46	21.04	20.62
56.0	9.47	29.26	27.01	25.66	24.76	23.63	22.96	22.51	22.06
58.0	9.81	31.22	28.82	27.38	26.42	25.22	24.50	24.02	23.54
60.0	10.15	33.24	30.69	29.15	28.13	26.85	26.08	25.57	25.06

Pressure Loss Tables

Pressure Loss Per 100 Feet

1½" HDPE - SDR11 (40% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
3.0	0.51	0.14	0.13	0.12	0.12	0.11	0.11	0.11	0.11
4.0	0.68	0.24	0.22	0.21	0.20	0.19	0.19	0.18	0.18
5.0	0.85	0.36	0.33	0.32	0.30	0.29	0.28	0.28	0.27
6.0	1.01	0.50	0.46	0.44	0.43	0.41	0.40	0.39	0.38
7.0	1.18	0.67	0.62	0.59	0.57	0.54	0.53	0.52	0.50
8.0	1.35	0.86	0.79	0.75	0.73	0.69	0.67	0.66	0.65
9.0	1.52	1.07	0.98	0.94	0.90	0.86	0.84	0.82	0.80
10.0	1.69	1.30	1.20	1.14	1.10	1.05	1.02	1.00	0.98
11.0	1.86	1.55	1.43	1.36	1.31	1.25	1.21	1.19	1.17
12.0	2.03	1.82	1.68	1.59	1.54	1.47	1.42	1.40	1.37
13.0	2.20	2.11	1.94	1.85	1.78	1.70	1.65	1.62	1.59
14.0	2.37	2.41	2.23	2.12	2.04	1.95	1.89	1.86	1.82
15.0	2.54	2.74	2.53	2.41	2.32	2.22	2.15	2.11	2.07
16.0	2.71	3.09	2.85	2.71	2.62	2.50	2.43	2.38	2.33
17.0	2.88	3.46	3.19	3.03	2.93	2.79	2.71	2.66	2.61
18.0	3.04	3.84	3.55	3.37	3.25	3.11	3.02	2.96	2.90
19.0	3.21	4.25	3.92	3.73	3.60	3.43	3.33	3.27	3.20
20.0	3.38	4.67	4.31	4.10	3.95	3.77	3.67	3.59	3.52
21.0	3.55	5.11	4.72	4.48	4.33	4.13	4.01	3.93	3.85
22.0	3.72	5.57	5.14	4.89	4.72	4.50	4.37	4.29	4.20
23.0	3.89	6.05	5.58	5.31	5.12	4.89	4.75	4.65	4.56
24.0	4.06	6.55	6.04	5.74	5.54	5.29	5.14	5.04	4.93
25.0	4.23	7.06	6.52	6.19	5.97	5.70	5.54	5.43	5.32
26.0	4.40	7.59	7.01	6.66	6.42	6.13	5.96	5.84	5.72
27.0	4.57	8.14	7.51	7.14	6.89	6.57	6.39	6.26	6.14
28.0	4.74	8.71	8.04	7.63	7.37	7.03	6.83	6.70	6.56
29.0	4.91	9.29	8.58	8.15	7.86	7.50	7.29	7.15	7.00
30.0	5.07	9.89	9.13	8.67	8.37	7.99	7.76	7.61	7.46
31.0	5.24	10.51	9.70	9.22	8.89	8.49	8.25	8.08	7.92
32.0	5.41	11.15	10.29	9.77	9.43	9.00	8.74	8.57	8.40
33.0	5.58	11.80	10.89	10.35	9.98	9.53	9.26	9.08	8.89
34.0	5.75	12.47	11.51	10.93	10.55	10.07	9.78	9.59	9.40
35.0	5.92	13.16	12.14	11.54	11.13	10.63	10.32	10.12	9.92
36.0	6.09	13.86	12.79	12.15	11.73	11.19	10.87	10.66	10.45
37.0	6.26	14.58	13.46	12.78	12.34	11.78	11.44	11.21	10.99
38.0	6.43	15.32	14.14	13.43	12.96	12.37	12.02	11.78	11.55
39.0	6.60	16.07	14.83	14.09	13.60	12.98	12.61	12.36	12.11
40.0	6.77	16.84	15.55	14.77	14.25	13.60	13.21	12.95	12.70
41.0	6.94	17.63	16.27	15.46	14.92	14.24	13.83	13.56	13.29
42.0	7.10	18.43	17.01	16.16	15.60	14.89	14.46	14.18	13.90
43.0	7.27	19.25	17.77	16.88	16.29	15.55	15.11	14.81	14.51
44.0	7.44	20.09	18.54	17.62	17.00	16.23	15.76	15.45	15.14
45.0	7.61	20.94	19.33	18.36	17.72	16.91	16.43	16.11	15.79
46.0	7.78	21.81	20.13	19.13	18.46	17.62	17.11	16.78	16.44
47.0	7.95	22.70	20.95	19.90	19.20	18.33	17.81	17.46	17.11
48.0	8.12	23.60	21.78	20.69	19.97	19.06	18.51	18.15	17.79
49.0	8.29	24.51	22.63	21.50	20.74	19.80	19.23	18.86	18.48
50.0	8.46	25.45	23.49	22.32	21.53	20.55	19.97	19.58	19.18
52.0	8.80	27.36	25.26	24.00	23.15	22.10	21.47	21.05	20.63
54.0	9.13	29.34	27.09	25.73	24.83	23.70	23.02	22.57	22.12
56.0	9.47	31.38	28.97	27.52	26.56	25.35	24.62	24.14	23.66
58.0	9.81	33.49	30.91	29.37	28.34	27.05	26.28	25.76	25.25
60.0	10.15	35.66	32.91	31.27	30.17	28.80	27.98	27.43	26.88

Pressure Loss Per 100 Feet

1½" HDPE - SDR11 (50% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
3.0	0.51	0.15	0.14	0.13	0.12	0.12	0.12	0.11	0.11
4.0	0.68	0.25	0.23	0.22	0.21	0.20	0.20	0.19	0.19
5.0	0.85	0.38	0.35	0.33	0.32	0.31	0.30	0.29	0.29
6.0	1.01	0.53	0.49	0.46	0.45	0.43	0.42	0.41	0.40
7.0	1.18	0.71	0.65	0.62	0.60	0.57	0.55	0.54	0.53
8.0	1.35	0.90	0.83	0.79	0.76	0.73	0.71	0.69	0.68
9.0	1.52	1.12	1.04	0.98	0.95	0.91	0.88	0.86	0.85
10.0	1.69	1.36	1.26	1.20	1.15	1.10	1.07	1.05	1.03
11.0	1.86	1.63	1.50	1.43	1.38	1.31	1.28	1.25	1.23
12.0	2.03	1.91	1.76	1.68	1.62	1.54	1.50	1.47	1.44
13.0	2.20	2.22	2.05	1.94	1.88	1.79	1.74	1.70	1.67
14.0	2.37	2.54	2.35	2.23	2.15	2.05	1.99	1.96	1.92
15.0	2.54	2.89	2.67	2.53	2.44	2.33	2.27	2.22	2.18
16.0	2.71	3.25	3.00	2.85	2.75	2.63	2.55	2.50	2.45
17.0	2.88	3.64	3.36	3.19	3.08	2.94	2.86	2.80	2.74
18.0	3.04	4.05	3.74	3.55	3.42	3.27	3.18	3.11	3.05
19.0	3.21	4.47	4.13	3.92	3.78	3.61	3.51	3.44	3.37
20.0	3.38	4.92	4.54	4.31	4.16	3.97	3.86	3.78	3.71
21.0	3.55	5.38	4.97	4.72	4.55	4.35	4.22	4.14	4.06
22.0	3.72	5.87	5.41	5.14	4.96	4.74	4.60	4.51	4.42
23.0	3.89	6.37	5.88	5.58	5.39	5.14	5.00	4.90	4.80
24.0	4.06	6.89	6.36	6.04	5.83	5.57	5.41	5.30	5.19
25.0	4.23	7.43	6.86	6.52	6.29	6.00	5.83	5.72	5.60
26.0	4.40	7.99	7.38	7.01	6.76	6.45	6.27	6.15	6.02
27.0	4.57	8.57	7.91	7.51	7.25	6.92	6.72	6.59	6.46
28.0	4.74	9.16	8.46	8.04	7.75	7.40	7.19	7.05	6.91
29.0	4.91	9.78	9.03	8.58	8.27	7.90	7.67	7.52	7.37
30.0	5.07	10.41	9.61	9.13	8.81	8.41	8.17	8.01	7.85
31.0	5.24	11.06	10.21	9.70	9.36	8.94	8.68	8.51	8.34
32.0	5.41	11.73	10.83	10.29	9.93	9.48	9.21	9.02	8.84
33.0	5.58	12.42	11.46	10.89	10.51	10.03	9.74	9.55	9.36
34.0	5.75	13.12	12.11	11.51	11.11	10.60	10.30	10.10	9.89
35.0	5.92	13.85	12.78	12.14	11.72	11.18	10.86	10.65	10.44
36.0	6.09	14.59	13.47	12.79	12.34	11.78	11.45	11.22	11.00
37.0	6.26	15.35	14.17	13.46	12.99	12.40	12.04	11.81	11.57
38.0	6.43	16.12	14.88	14.14	13.64	13.02	12.65	12.40	12.15
39.0	6.60	16.92	15.62	14.83	14.31	13.66	13.27	13.01	12.75
40.0	6.77	17.73	16.36	15.55	15.00	14.32	13.91	13.64	13.36
41.0	6.94	18.56	17.13	16.27	15.70	14.99	14.56	14.27	13.99
42.0	7.10	19.40	17.91	17.01	16.42	15.67	15.22	14.92	14.63
43.0	7.27	20.27	18.71	17.77	17.15	16.37	15.90	15.59	15.28
44.0	7.44	21.15	19.52	18.54	17.89	17.08	16.59	16.27	15.94
45.0	7.61	22.04	20.35	19.33	18.65	17.80	17.30	16.96	16.62
46.0	7.78	22.96	21.19	20.13	19.43	18.54	18.01	17.66	17.31
47.0	7.95	23.89	22.05	20.95	20.21	19.30	18.74	18.38	18.01
48.0	8.12	24.84	22.93	21.78	21.02	20.06	19.49	19.11	18.72
49.0	8.29	25.81	23.82	22.63	21.84	20.84	20.25	19.85	19.45
50.0	8.46	26.79	24.73	23.49	22.67	21.64	21.02	20.61	20.19
52.0	8.80	28.80	26.59	25.26	24.37	23.26	22.60	22.16	21.71
54.0	9.13	30.89	28.51	27.09	26.13	24.95	24.23	23.76	23.28
56.0	9.47	33.04	30.49	28.97	27.95	26.68	25.92	25.41	24.90
58.0	9.81	35.25	32.54	30.91	29.83	28.47	27.66	27.12	26.57
60.0	10.15	37.53	34.65	32.91	31.76	30.32	29.45	28.87	28.29

Pressure Loss Tables

Pressure Loss Per 100 Feet

2" HDPE - SDR11 (100% Water)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
11.0	1.19	0.39	0.36	0.34	0.33	0.32	0.31	0.30	0.30
12.0	1.30	0.46	0.42	0.40	0.39	0.37	0.36	0.35	0.35
13.0	1.41	0.53	0.49	0.47	0.45	0.43	0.42	0.41	0.40
14.0	1.51	0.61	0.57	0.54	0.52	0.49	0.48	0.47	0.46
15.0	1.62	0.70	0.64	0.61	0.59	0.56	0.55	0.54	0.52
16.0	1.73	0.78	0.72	0.69	0.66	0.63	0.62	0.60	0.59
17.0	1.84	0.88	0.81	0.77	0.74	0.71	0.69	0.67	0.66
18.0	1.95	0.97	0.90	0.85	0.82	0.79	0.76	0.75	0.73
19.0	2.06	1.08	0.99	0.94	0.91	0.87	0.85	0.83	0.81
20.0	2.16	1.18	1.09	1.04	1.00	0.96	0.93	0.91	0.89
21.0	2.27	1.30	1.20	1.14	1.10	1.05	1.02	1.00	0.98
22.0	2.38	1.41	1.30	1.24	1.20	1.14	1.11	1.09	1.07
23.0	2.49	1.53	1.42	1.35	1.30	1.24	1.20	1.18	1.16
24.0	2.60	1.66	1.53	1.46	1.40	1.34	1.30	1.28	1.25
25.0	2.71	1.79	1.65	1.57	1.51	1.45	1.40	1.38	1.35
26.0	2.81	1.92	1.78	1.69	1.63	1.55	1.51	1.48	1.45
27.0	2.92	2.06	1.91	1.81	1.75	1.67	1.62	1.59	1.56
28.0	3.03	2.21	2.04	1.94	1.87	1.78	1.73	1.70	1.66
29.0	3.14	2.36	2.17	2.07	1.99	1.90	1.85	1.81	1.78
30.0	3.25	2.51	2.32	2.20	2.12	2.03	1.97	1.93	1.89
32.0	3.46	2.83	2.61	2.48	2.39	2.28	2.22	2.17	2.13
34.0	3.68	3.16	2.92	2.77	2.68	2.55	2.48	2.43	2.38
36.0	3.90	3.51	3.24	3.08	2.97	2.84	2.76	2.70	2.65
38.0	4.11	3.88	3.59	3.41	3.29	3.14	3.05	2.99	2.93
40.0	4.33	4.27	3.94	3.74	3.61	3.45	3.35	3.28	3.22
42.0	4.54	4.67	4.31	4.10	3.95	3.77	3.67	3.60	3.52
44.0	4.76	5.09	4.70	4.47	4.31	4.11	4.00	3.92	3.84
46.0	4.98	5.53	5.10	4.85	4.68	4.47	4.34	4.25	4.17
48.0	5.19	5.98	5.52	5.25	5.06	4.83	4.69	4.60	4.51
50.0	5.41	6.45	5.96	5.66	5.46	5.21	5.06	4.96	4.86
52.0	5.63	6.94	6.40	6.08	5.87	5.60	5.44	5.34	5.23
54.0	5.84	7.44	6.87	6.52	6.30	6.01	5.84	5.72	5.61
56.0	6.06	7.96	7.35	6.98	6.73	6.43	6.24	6.12	6.00
58.0	6.28	8.49	7.84	7.45	7.19	6.86	6.66	6.53	6.40
60.0	6.49	9.04	8.35	7.93	7.65	7.30	7.09	6.95	6.82
62.0	6.71	9.61	8.87	8.42	8.13	7.76	7.54	7.39	7.24
64.0	6.93	10.19	9.40	8.93	8.62	8.23	7.99	7.84	7.68
66.0	7.14	10.78	9.96	9.46	9.13	8.71	8.46	8.30	8.13
68.0	7.36	11.40	10.52	9.99	9.64	9.21	8.94	8.77	8.59
70.0	7.57	12.03	11.10	10.55	10.18	9.71	9.44	9.25	9.07
72.0	7.79	12.67	11.69	11.11	10.72	10.23	9.94	9.74	9.55
74.0	8.01	13.33	12.30	11.69	11.28	10.76	10.46	10.25	10.05
76.0	8.22	14.00	12.92	12.28	11.85	11.31	10.99	10.77	10.55
78.0	8.44	14.69	13.56	12.88	12.43	11.87	11.53	11.30	11.07
80.0	8.66	15.39	14.21	13.50	13.03	12.43	12.08	11.84	11.61
82.0	8.87	16.11	14.87	14.13	13.64	13.02	12.64	12.40	12.15
84.0	9.09	16.85	15.55	14.78	14.26	13.61	13.22	12.96	12.70
86.0	9.31	17.60	16.24	15.43	14.89	14.21	13.81	13.54	13.27
88.0	9.52	18.36	16.95	16.10	15.54	14.83	14.41	14.13	13.84
90.0	9.74	19.14	17.67	16.79	16.20	15.46	15.02	14.73	14.43
92.0	9.95	19.94	18.40	17.48	16.87	16.10	15.64	15.34	15.03
94.0	10.17	20.75	19.15	18.19	17.55	16.76	16.28	15.96	15.64

Pressure Loss Per 100 Feet

2" HDPE - SDR11 (30% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
11.0	1.19	0.49	0.45	0.43	0.41	0.39	0.38	0.37	0.37
12.0	1.30	0.57	0.53	0.50	0.48	0.46	0.45	0.44	0.43
13.0	1.41	0.66	0.61	0.58	0.56	0.53	0.52	0.51	0.50
14.0	1.51	0.76	0.70	0.67	0.64	0.61	0.60	0.58	0.57
15.0	1.62	0.86	0.80	0.76	0.73	0.70	0.68	0.66	0.65
16.0	1.73	0.97	0.90	0.85	0.82	0.79	0.76	0.75	0.73
17.0	1.84	1.09	1.00	0.95	0.92	0.88	0.85	0.84	0.82
18.0	1.95	1.21	1.12	1.06	1.02	0.98	0.95	0.93	0.91
19.0	2.06	1.34	1.23	1.17	1.13	1.08	1.05	1.03	1.01
20.0	2.16	1.47	1.36	1.29	1.24	1.19	1.15	1.13	1.11
21.0	2.27	1.61	1.48	1.41	1.36	1.30	1.26	1.24	1.21
22.0	2.38	1.75	1.62	1.54	1.48	1.42	1.37	1.35	1.32
23.0	2.49	1.90	1.76	1.67	1.61	1.54	1.49	1.46	1.43
24.0	2.60	2.06	1.90	1.80	1.74	1.66	1.61	1.58	1.55
25.0	2.71	2.22	2.05	1.95	1.88	1.79	1.74	1.71	1.67
26.0	2.81	2.39	2.20	2.09	2.02	1.93	1.87	1.84	1.80
27.0	2.92	2.56	2.36	2.24	2.17	2.07	2.01	1.97	1.93
28.0	3.03	2.74	2.53	2.40	2.32	2.21	2.15	2.11	2.06
29.0	3.14	2.92	2.70	2.56	2.47	2.36	2.29	2.25	2.20
30.0	3.25	3.11	2.87	2.73	2.63	2.51	2.44	2.39	2.34
32.0	3.46	3.50	3.23	3.07	2.97	2.83	2.75	2.70	2.64
34.0	3.68	3.92	3.62	3.44	3.32	3.17	3.08	3.02	2.96
36.0	3.90	4.36	4.02	3.82	3.69	3.52	3.42	3.35	3.28
38.0	4.11	4.82	4.45	4.22	4.07	3.89	3.78	3.70	3.63
40.0	4.33	5.30	4.89	4.64	4.48	4.28	4.15	4.07	3.99
42.0	4.54	5.80	5.35	5.08	4.90	4.68	4.55	4.46	4.37
44.0	4.76	6.32	5.83	5.54	5.34	5.10	4.96	4.86	4.76
46.0	4.98	6.86	6.33	6.01	5.80	5.54	5.38	5.28	5.17
48.0	5.19	7.42	6.85	6.51	6.28	5.99	5.82	5.71	5.59
50.0	5.41	8.00	7.39	7.02	6.77	6.46	6.28	6.15	6.03
52.0	5.63	8.60	7.94	7.54	7.28	6.95	6.75	6.62	6.49
54.0	5.84	9.23	8.52	8.09	7.81	7.45	7.24	7.10	6.95
56.0	6.06	9.87	9.11	8.65	8.35	7.97	7.74	7.59	7.44
58.0	6.28	10.53	9.72	9.23	8.91	8.50	8.26	8.10	7.94
60.0	6.49	11.21	10.35	9.83	9.49	9.06	8.80	8.62	8.45
62.0	6.71	11.91	11.00	10.45	10.08	9.62	9.35	9.16	8.98
64.0	6.93	12.63	11.66	11.08	10.69	10.20	9.91	9.72	9.52
66.0	7.14	13.37	12.34	11.73	11.32	10.80	10.49	10.29	10.08
68.0	7.36	14.13	13.05	12.39	11.96	11.41	11.09	10.87	10.65
70.0	7.57	14.91	13.76	13.08	12.62	12.04	11.70	11.47	11.24
72.0	7.79	15.71	14.50	13.78	13.29	12.69	12.33	12.08	11.84
74.0	8.01	16.53	15.25	14.49	13.98	13.35	12.97	12.71	12.46
76.0	8.22	17.36	16.03	15.22	14.69	14.02	13.62	13.35	13.09
78.0	8.44	18.22	16.81	15.97	15.41	14.71	14.29	14.01	13.73
80.0	8.66	19.09	17.62	16.74	16.15	15.42	14.98	14.68	14.39
82.0	8.87	19.98	18.44	17.52	16.91	16.14	15.68	15.37	15.06
84.0	9.09	20.89	19.29	18.32	17.68	16.87	16.39	16.07	15.75
86.0	9.31	21.82	20.14	19.14	18.46	17.63	17.12	16.79	16.45
88.0	9.52	22.77	21.02	19.97	19.27	18.39	17.87	17.52	17.17
90.0	9.74	23.74	21.91	20.82	20.09	19.17	18.62	18.26	17.89
92.0	9.95	24.72	22.82	21.68	20.92	19.97	19.40	19.02	18.64
94.0	10.17	25.73	23.75	22.56	21.77	20.78	20.18	19.79	19.39

Pressure Loss Tables

Pressure Loss Per 100 Feet

2" HDPE - SDR11 (40% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
11.0	1.19	0.52	0.48	0.46	0.44	0.42	0.41	0.40	0.39
12.0	1.30	0.61	0.57	0.54	0.52	0.49	0.48	0.47	0.46
13.0	1.41	0.71	0.66	0.62	0.60	0.57	0.56	0.55	0.54
14.0	1.51	0.81	0.75	0.71	0.69	0.66	0.64	0.63	0.61
15.0	1.62	0.93	0.85	0.81	0.78	0.75	0.73	0.71	0.70
16.0	1.73	1.04	0.96	0.91	0.88	0.84	0.82	0.80	0.79
17.0	1.84	1.17	1.08	1.02	0.99	0.94	0.92	0.90	0.88
18.0	1.95	1.30	1.20	1.14	1.10	1.05	1.02	1.00	0.98
19.0	2.06	1.43	1.32	1.26	1.21	1.16	1.12	1.10	1.08
20.0	2.16	1.58	1.45	1.38	1.33	1.27	1.24	1.21	1.19
21.0	2.27	1.72	1.59	1.51	1.46	1.39	1.35	1.33	1.30
22.0	2.38	1.88	1.73	1.65	1.59	1.52	1.47	1.45	1.42
23.0	2.49	2.04	1.88	1.79	1.73	1.65	1.60	1.57	1.54
24.0	2.60	2.21	2.04	1.94	1.87	1.78	1.73	1.70	1.66
25.0	2.71	2.38	2.20	2.09	2.01	1.92	1.87	1.83	1.79
26.0	2.81	2.56	2.36	2.24	2.17	2.07	2.01	1.97	1.93
27.0	2.92	2.74	2.53	2.41	2.32	2.22	2.15	2.11	2.07
28.0	3.03	2.94	2.71	2.57	2.48	2.37	2.30	2.26	2.21
29.0	3.14	3.13	2.89	2.75	2.65	2.53	2.46	2.41	2.36
30.0	3.25	3.34	3.08	2.93	2.82	2.69	2.62	2.57	2.51
32.0	3.46	3.76	3.47	3.30	3.18	3.04	2.95	2.89	2.83
34.0	3.68	4.20	3.88	3.69	3.56	3.40	3.30	3.23	3.17
36.0	3.90	4.67	4.31	4.10	3.95	3.77	3.67	3.60	3.52
38.0	4.11	5.17	4.77	4.53	4.37	4.17	4.05	3.97	3.89
40.0	4.33	5.68	5.24	4.98	4.81	4.59	4.46	4.37	4.28
42.0	4.54	6.22	5.74	5.45	5.26	5.02	4.88	4.78	4.69
44.0	4.76	6.77	6.25	5.94	5.73	5.47	5.32	5.21	5.11
46.0	4.98	7.36	6.79	6.45	6.22	5.94	5.77	5.66	5.54
48.0	5.19	7.96	7.35	6.98	6.73	6.43	6.24	6.12	6.00
50.0	5.41	8.58	7.92	7.53	7.26	6.93	6.73	6.60	6.47
52.0	5.63	9.23	8.52	8.09	7.81	7.45	7.24	7.10	6.96
54.0	5.84	9.90	9.13	8.68	8.37	7.99	7.76	7.61	7.46
56.0	6.06	10.58	9.77	9.28	8.96	8.55	8.30	8.14	7.98
58.0	6.28	11.29	10.43	9.90	9.56	9.12	8.86	8.69	8.51
60.0	6.49	12.03	11.10	10.55	10.18	9.71	9.44	9.25	9.07
62.0	6.71	12.78	11.79	11.20	10.81	10.32	10.03	9.83	9.63
64.0	6.93	13.55	12.51	11.88	11.47	10.94	10.63	10.42	10.21
66.0	7.14	14.34	13.24	12.58	12.14	11.59	11.25	11.03	10.81
68.0	7.36	15.16	13.99	13.29	12.83	12.24	11.89	11.66	11.43
70.0	7.57	15.99	14.76	14.02	13.53	12.92	12.55	12.30	12.06
72.0	7.79	16.85	15.55	14.78	14.26	13.61	13.22	12.96	12.70
74.0	8.01	17.72	16.36	15.54	15.00	14.32	13.91	13.63	13.36
76.0	8.22	18.62	17.19	16.33	15.76	15.04	14.61	14.32	14.04
78.0	8.44	19.54	18.04	17.13	16.53	15.78	15.33	15.03	14.73
80.0	8.66	20.47	18.90	17.95	17.32	16.54	16.06	15.75	15.43
82.0	8.87	21.43	19.78	18.79	18.13	17.31	16.82	16.49	16.16
84.0	9.09	22.41	20.69	19.65	18.96	18.10	17.58	17.24	16.89
86.0	9.31	23.41	21.61	20.53	19.81	18.90	18.36	18.00	17.64
88.0	9.52	24.42	22.54	21.42	20.67	19.73	19.16	18.79	18.41
90.0	9.74	25.46	23.50	22.33	21.54	20.56	19.98	19.58	19.19
92.0	9.95	26.52	24.48	23.25	22.44	21.42	20.81	20.40	19.99
94.0	10.17	27.59	25.47	24.20	23.35	22.29	21.65	21.23	20.80

Pressure Loss Per 100 Feet

2" HDPE - SDR11 (50% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
11.0	1.19	0.49	0.45	0.43	0.41	0.39	0.38	0.37	0.37
12.0	1.30	0.57	0.53	0.50	0.48	0.46	0.45	0.44	0.43
13.0	1.41	0.66	0.61	0.58	0.56	0.53	0.52	0.51	0.50
14.0	1.51	0.76	0.70	0.67	0.64	0.61	0.60	0.58	0.57
15.0	1.62	0.86	0.80	0.76	0.73	0.70	0.68	0.66	0.65
16.0	1.73	0.97	0.90	0.85	0.82	0.79	0.76	0.75	0.73
17.0	1.84	1.09	1.00	0.95	0.92	0.88	0.85	0.84	0.82
18.0	1.95	1.21	1.12	1.06	1.02	0.98	0.95	0.93	0.91
19.0	2.06	1.34	1.23	1.17	1.13	1.08	1.05	1.03	1.01
20.0	2.16	1.47	1.36	1.29	1.24	1.19	1.15	1.13	1.11
21.0	2.27	1.61	1.48	1.41	1.36	1.30	1.26	1.24	1.21
22.0	2.38	1.75	1.62	1.54	1.48	1.42	1.37	1.35	1.32
23.0	2.49	1.90	1.76	1.67	1.61	1.54	1.49	1.46	1.43
24.0	2.60	2.06	1.90	1.80	1.74	1.66	1.61	1.58	1.55
25.0	2.71	2.22	2.05	1.95	1.88	1.79	1.74	1.71	1.67
26.0	2.81	2.39	2.20	2.09	2.02	1.93	1.87	1.84	1.80
27.0	2.92	2.56	2.36	2.24	2.17	2.07	2.01	1.97	1.93
28.0	3.03	2.74	2.53	2.40	2.32	2.21	2.15	2.11	2.06
29.0	3.14	2.92	2.70	2.56	2.47	2.36	2.29	2.25	2.20
30.0	3.25	3.11	2.87	2.73	2.63	2.51	2.44	2.39	2.34
32.0	3.46	3.50	3.23	3.07	2.97	2.83	2.75	2.70	2.64
34.0	3.68	3.92	3.62	3.44	3.32	3.17	3.08	3.02	2.96
36.0	3.90	4.36	4.02	3.82	3.69	3.52	3.42	3.35	3.28
38.0	4.11	4.82	4.45	4.22	4.07	3.89	3.78	3.70	3.63
40.0	4.33	5.30	4.89	4.64	4.48	4.28	4.15	4.07	3.99
42.0	4.54	5.80	5.35	5.08	4.90	4.68	4.55	4.46	4.37
44.0	4.76	6.32	5.83	5.54	5.34	5.10	4.96	4.86	4.76
46.0	4.98	6.86	6.33	6.01	5.80	5.54	5.38	5.28	5.17
48.0	5.19	7.42	6.85	6.51	6.28	5.99	5.82	5.71	5.59
50.0	5.41	8.00	7.39	7.02	6.77	6.46	6.28	6.15	6.03
52.0	5.63	8.60	7.94	7.54	7.28	6.95	6.75	6.62	6.49
54.0	5.84	9.23	8.52	8.09	7.81	7.45	7.24	7.10	6.95
56.0	6.06	9.87	9.11	8.65	8.35	7.97	7.74	7.59	7.44
58.0	6.28	10.53	9.72	9.23	8.91	8.50	8.26	8.10	7.94
60.0	6.49	11.21	10.35	9.83	9.49	9.06	8.80	8.62	8.45
62.0	6.71	11.91	11.00	10.45	10.08	9.62	9.35	9.16	8.98
64.0	6.93	12.63	11.66	11.08	10.69	10.20	9.91	9.72	9.52
66.0	7.14	13.37	12.34	11.73	11.32	10.80	10.49	10.29	10.08
68.0	7.36	14.13	13.05	12.39	11.96	11.41	11.09	10.87	10.65
70.0	7.57	14.91	13.76	13.08	12.62	12.04	11.70	11.47	11.24
72.0	7.79	15.71	14.50	13.78	13.29	12.69	12.33	12.08	11.84
74.0	8.01	16.53	15.25	14.49	13.98	13.35	12.97	12.71	12.46
76.0	8.22	17.36	16.03	15.22	14.69	14.02	13.62	13.35	13.09
78.0	8.44	18.22	16.81	15.97	15.41	14.71	14.29	14.01	13.73
80.0	8.66	19.09	17.62	16.74	16.15	15.42	14.98	14.68	14.39
82.0	8.87	19.98	18.44	17.52	16.91	16.14	15.68	15.37	15.06
84.0	9.09	20.89	19.29	18.32	17.68	16.87	16.39	16.07	15.75
86.0	9.31	21.82	20.14	19.14	18.46	17.63	17.12	16.79	16.45
88.0	9.52	22.77	21.02	19.97	19.27	18.39	17.87	17.52	17.17
90.0	9.74	23.74	21.91	20.82	20.09	19.17	18.62	18.26	17.89
92.0	9.95	24.72	22.82	21.68	20.92	19.97	19.40	19.02	18.64
94.0	10.17	25.73	23.75	22.56	21.77	20.78	20.18	19.79	19.39

Pressure Loss Tables

Pressure Loss Per 100 Feet

3" HDPE - SDR11 (100% Water)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
30	1.50	0.38	0.35	0.34	0.32	0.31	0.30	0.29	0.29
31	1.55	0.41	0.37	0.36	0.34	0.33	0.32	0.31	0.31
32	1.60	0.43	0.40	0.38	0.36	0.35	0.34	0.33	0.32
33	1.65	0.46	0.42	0.40	0.39	0.37	0.36	0.35	0.34
34	1.70	0.48	0.44	0.42	0.41	0.39	0.38	0.37	0.36
35	1.75	0.51	0.47	0.45	0.43	0.41	0.40	0.39	0.38
36	1.80	0.54	0.49	0.47	0.45	0.43	0.42	0.41	0.40
37	1.85	0.56	0.52	0.49	0.48	0.46	0.44	0.43	0.42
38	1.90	0.59	0.55	0.52	0.50	0.48	0.46	0.46	0.45
39	1.95	0.62	0.57	0.54	0.53	0.50	0.49	0.48	0.47
40	2.00	0.65	0.60	0.57	0.55	0.53	0.51	0.50	0.49
41	2.05	0.68	0.63	0.60	0.58	0.55	0.53	0.52	0.51
42	2.10	0.71	0.66	0.62	0.60	0.58	0.56	0.55	0.54
43	2.15	0.74	0.69	0.65	0.63	0.60	0.58	0.57	0.56
44	2.20	0.78	0.72	0.68	0.66	0.63	0.61	0.60	0.59
45	2.25	0.81	0.75	0.71	0.68	0.65	0.64	0.62	0.61
46	2.30	0.84	0.78	0.74	0.71	0.68	0.66	0.65	0.64
47	2.35	0.88	0.81	0.77	0.74	0.71	0.69	0.67	0.66
48	2.40	0.91	0.84	0.80	0.77	0.74	0.72	0.70	0.69
49	2.45	0.95	0.87	0.83	0.80	0.77	0.74	0.73	0.71
50	2.50	0.98	0.91	0.86	0.83	0.79	0.77	0.76	0.74
52	2.60	1.06	0.98	0.93	0.90	0.85	0.83	0.81	0.80
54	2.70	1.13	1.05	0.99	0.96	0.92	0.89	0.87	0.86
56	2.80	1.21	1.12	1.06	1.03	0.98	0.95	0.93	0.91
58	2.90	1.29	1.19	1.14	1.10	1.05	1.02	1.00	0.98
60	3.00	1.38	1.27	1.21	1.17	1.11	1.08	1.06	1.04
62	3.10	1.46	1.35	1.28	1.24	1.18	1.15	1.13	1.10
64	3.20	1.55	1.43	1.36	1.31	1.25	1.22	1.19	1.17
66	3.30	1.64	1.52	1.44	1.39	1.33	1.29	1.26	1.24
68	3.40	1.74	1.60	1.52	1.47	1.40	1.36	1.34	1.31
70	3.50	1.83	1.69	1.61	1.55	1.48	1.44	1.41	1.38
72	3.60	1.93	1.78	1.69	1.63	1.56	1.52	1.49	1.46
74	3.70	2.03	1.88	1.78	1.72	1.64	1.59	1.56	1.53
76	3.80	2.13	1.97	1.87	1.81	1.72	1.67	1.64	1.61
78	3.90	2.24	2.07	1.96	1.89	1.81	1.76	1.72	1.69
80	4.00	2.35	2.17	2.06	1.99	1.90	1.84	1.81	1.77
82	4.10	2.46	2.27	2.15	2.08	1.98	1.93	1.89	1.85
84	4.20	2.57	2.37	2.25	2.17	2.07	2.02	1.98	1.94
86	4.29	2.68	2.48	2.35	2.27	2.17	2.10	2.06	2.02
88	4.39	2.80	2.58	2.45	2.37	2.26	2.20	2.15	2.11
90	4.49	2.92	2.69	2.56	2.47	2.36	2.29	2.24	2.20
92	4.59	3.04	2.81	2.67	2.57	2.45	2.38	2.34	2.29
94	4.69	3.16	2.92	2.77	2.68	2.55	2.48	2.43	2.38
96	4.79	3.29	3.04	2.88	2.78	2.66	2.58	2.53	2.48
98	4.89	3.42	3.15	3.00	2.89	2.76	2.68	2.63	2.58
100	4.99	3.55	3.27	3.11	3.00	2.86	2.78	2.73	2.67
102	5.09	3.68	3.40	3.23	3.11	2.97	2.89	2.83	2.77
104	5.19	3.81	3.52	3.34	3.23	3.08	2.99	2.93	2.87
106	5.29	3.95	3.65	3.46	3.34	3.19	3.10	3.04	2.98
108	5.39	4.09	3.77	3.59	3.46	3.30	3.21	3.15	3.08
110	5.49	4.23	3.90	3.71	3.58	3.42	3.32	3.25	3.19
112	5.59	4.37	4.04	3.84	3.70	3.53	3.43	3.36	3.30

Pressure Loss Per 100 Feet

3" HDPE - SDR11 (100% Water)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
114	5.69	4.52	4.17	3.96	3.82	3.65	3.55	3.55	3.41
116	5.79	4.67	4.31	4.09	3.95	3.77	3.66	3.66	3.52
118	5.89	4.82	4.45	4.22	4.08	3.89	3.78	3.78	3.63
120	5.99	4.97	4.59	4.36	4.20	4.01	3.90	3.90	3.75
122	6.09	5.12	4.73	4.49	4.33	4.14	4.02	4.02	3.86
124	6.19	5.28	4.87	4.63	4.47	4.26	4.14	4.14	3.98
126	6.29	5.44	5.02	4.77	4.60	4.39	4.27	4.27	4.10
128	6.39	5.60	5.17	4.91	4.74	4.52	4.39	4.39	4.22
130	6.49	5.76	5.32	5.05	4.88	4.65	4.52	4.52	4.34
132	6.59	5.93	5.47	5.20	5.02	4.79	4.65	4.65	4.47
134	6.69	6.09	5.63	5.34	5.16	4.92	4.78	4.78	4.59
136	6.79	6.26	5.78	5.49	5.30	5.06	4.91	4.91	4.72
138	6.89	6.43	5.94	5.64	5.44	5.20	5.05	5.05	4.85
140	6.99	6.61	6.10	5.80	5.59	5.34	5.19	5.19	4.98
142	7.09	6.78	6.26	5.95	5.74	5.48	5.32	5.32	5.11
144	7.19	6.96	6.43	6.11	5.89	5.62	5.46	5.46	5.25
146	7.29	7.14	6.59	6.26	6.04	5.77	5.60	5.60	5.38
148	7.39	7.32	6.76	6.42	6.20	5.92	5.75	5.75	5.52
150	7.49	7.51	6.93	6.58	6.35	6.06	5.89	5.89	5.66
155	7.74	7.98	7.36	7.00	6.75	6.44	6.26	6.26	6.01
160	7.99	8.46	7.81	7.42	7.16	6.83	6.64	6.64	6.38
165	8.24	8.96	8.27	7.85	7.58	7.23	7.03	7.03	6.75
170	8.49	9.46	8.74	8.30	8.01	7.64	7.43	7.43	7.13
175	8.74	9.99	9.22	8.76	8.45	8.07	7.84	7.84	7.53
180	8.99	10.52	9.71	9.23	8.90	8.50	8.25	8.25	7.93
185	9.24	11.07	10.22	9.71	9.36	8.94	8.68	8.68	8.34
190	9.49	11.63	10.73	10.20	9.84	9.39	9.12	9.12	8.76
195	9.74	12.20	11.26	10.70	10.32	9.85	9.57	9.57	9.20
200	9.99	12.78	11.80	11.21	10.82	10.33	10.03	10.03	9.64

Pressure Loss Tables

Pressure Loss Per 100 Feet

3" HDPE - SDR11 (30% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
30	1.50	0.47	0.44	0.42	0.40	0.38	0.37	0.36	0.36
31	1.55	0.50	0.46	0.44	0.43	0.41	0.40	0.39	0.38
32	1.60	0.53	0.49	0.47	0.45	0.43	0.42	0.41	0.40
33	1.65	0.57	0.52	0.50	0.48	0.46	0.44	0.44	0.43
34	1.70	0.60	0.55	0.52	0.51	0.48	0.47	0.46	0.45
35	1.75	0.63	0.58	0.55	0.53	0.51	0.49	0.49	0.48
36	1.80	0.66	0.61	0.58	0.56	0.54	0.52	0.51	0.50
37	1.85	0.70	0.65	0.61	0.59	0.56	0.55	0.54	0.53
38	1.90	0.73	0.68	0.64	0.62	0.59	0.58	0.56	0.55
39	1.95	0.77	0.71	0.68	0.65	0.62	0.60	0.59	0.58
40	2.00	0.81	0.75	0.71	0.68	0.65	0.63	0.62	0.61
41	2.05	0.84	0.78	0.74	0.71	0.68	0.66	0.65	0.64
42	2.10	0.88	0.82	0.77	0.75	0.71	0.69	0.68	0.67
43	2.15	0.92	0.85	0.81	0.78	0.75	0.72	0.71	0.70
44	2.20	0.96	0.89	0.84	0.81	0.78	0.76	0.74	0.73
45	2.25	1.00	0.93	0.88	0.85	0.81	0.79	0.77	0.76
46	2.30	1.05	0.97	0.92	0.88	0.84	0.82	0.80	0.79
47	2.35	1.09	1.00	0.95	0.92	0.88	0.85	0.84	0.82
48	2.40	1.13	1.04	0.99	0.96	0.91	0.89	0.87	0.85
49	2.45	1.18	1.08	1.03	0.99	0.95	0.92	0.90	0.89
50	2.50	1.22	1.13	1.07	1.03	0.99	0.96	0.94	0.92
52	2.60	1.31	1.21	1.15	1.11	1.06	1.03	1.01	0.99
54	2.70	1.41	1.30	1.23	1.19	1.14	1.10	1.08	1.06
56	2.80	1.50	1.39	1.32	1.27	1.22	1.18	1.16	1.13
58	2.90	1.61	1.48	1.41	1.36	1.30	1.26	1.23	1.21
60	3.00	1.71	1.58	1.50	1.45	1.38	1.34	1.31	1.29
62	3.10	1.82	1.68	1.59	1.54	1.47	1.42	1.40	1.37
64	3.20	1.93	1.78	1.69	1.63	1.56	1.51	1.48	1.45
66	3.30	2.04	1.88	1.79	1.73	1.65	1.60	1.57	1.54
68	3.40	2.15	1.99	1.89	1.82	1.74	1.69	1.66	1.62
70	3.50	2.27	2.10	1.99	1.92	1.84	1.78	1.75	1.71
72	3.60	2.39	2.21	2.10	2.03	1.93	1.88	1.84	1.81
74	3.70	2.52	2.33	2.21	2.13	2.03	1.98	1.94	1.90
76	3.80	2.65	2.44	2.32	2.24	2.14	2.08	2.04	2.00
78	3.90	2.78	2.56	2.44	2.35	2.24	2.18	2.14	2.09
80	4.00	2.91	2.69	2.55	2.46	2.35	2.28	2.24	2.19
82	4.10	3.05	2.81	2.67	2.58	2.46	2.39	2.34	2.30
84	4.20	3.18	2.94	2.79	2.69	2.57	2.50	2.45	2.40
86	4.29	3.33	3.07	2.92	2.81	2.69	2.61	2.56	2.51
88	4.39	3.47	3.20	3.04	2.94	2.80	2.72	2.67	2.62
90	4.49	3.62	3.34	3.17	3.06	2.92	2.84	2.78	2.73
92	4.59	3.77	3.48	3.30	3.19	3.04	2.96	2.90	2.84
94	4.69	3.92	3.62	3.44	3.32	3.17	3.08	3.02	2.96
96	4.79	4.08	3.76	3.58	3.45	3.29	3.20	3.14	3.07
98	4.89	4.24	3.91	3.71	3.58	3.42	3.32	3.26	3.19
100	4.99	4.40	4.06	3.86	3.72	3.55	3.45	3.38	3.31
102	5.09	4.56	4.21	4.00	3.86	3.68	3.58	3.51	3.44
104	5.19	4.73	4.36	4.15	4.00	3.82	3.71	3.64	3.56
106	5.29	4.90	4.52	4.30	4.14	3.96	3.84	3.77	3.69
108	5.39	5.07	4.68	4.45	4.29	4.10	3.98	3.90	3.82
110	5.49	5.25	4.84	4.60	4.44	4.24	4.12	4.03	3.95
112	5.59	5.42	5.01	4.76	4.59	4.38	4.26	4.17	4.09

Pressure Loss Per 100 Feet

3" HDPE - SDR11 (30% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
114	5.69	5.60	5.17	4.91	4.74	4.53	4.40	4.31	4.22
116	5.79	5.79	5.34	5.07	4.90	4.67	4.54	4.45	4.36
118	5.89	5.97	5.51	5.24	5.05	4.82	4.69	4.59	4.50
120	5.99	6.16	5.69	5.40	5.21	4.98	4.83	4.74	4.64
122	6.09	6.35	5.86	5.57	5.38	5.13	4.98	4.89	4.79
124	6.19	6.55	6.04	5.74	5.54	5.29	5.14	5.04	4.94
126	6.29	6.74	6.22	5.91	5.71	5.45	5.29	5.19	5.08
128	6.39	6.94	6.41	6.09	5.87	5.61	5.45	5.34	5.23
130	6.49	7.14	6.60	6.27	6.05	5.77	5.61	5.50	5.39
132	6.59	7.35	6.78	6.44	6.22	5.94	5.77	5.65	5.54
134	6.69	7.56	6.98	6.63	6.39	6.10	5.93	5.81	5.70
136	6.79	7.77	7.17	6.81	6.57	6.27	6.09	5.97	5.85
138	6.89	7.98	7.37	7.00	6.75	6.44	6.26	6.14	6.02
140	6.99	8.19	7.56	7.19	6.93	6.62	6.43	6.30	6.18
142	7.09	8.41	7.77	7.38	7.12	6.79	6.60	6.47	6.34
144	7.19	8.63	7.97	7.57	7.30	6.97	6.77	6.64	6.51
146	7.29	8.86	8.17	7.77	7.49	7.15	6.95	6.81	6.68
148	7.39	9.08	8.38	7.96	7.68	7.34	7.13	6.99	6.85
150	7.49	9.31	8.59	8.16	7.88	7.52	7.30	7.16	7.02
155	7.74	9.89	9.13	8.67	8.37	7.99	7.76	7.61	7.46
160	7.99	10.49	9.68	9.20	8.88	8.47	8.23	8.07	7.91
165	8.24	11.11	10.25	9.74	9.40	8.97	8.71	8.54	8.37
170	8.49	11.74	10.83	10.29	9.93	9.48	9.21	9.03	8.85
175	8.74	12.38	11.43	10.86	10.48	10.00	9.72	9.53	9.33
180	8.99	13.05	12.04	11.44	11.04	10.54	10.24	10.03	9.83
185	9.24	13.72	12.67	12.03	11.61	11.08	10.77	10.56	10.35
190	9.49	14.42	13.31	12.64	12.20	11.64	11.31	11.09	10.87
195	9.74	15.13	13.96	13.27	12.80	12.22	11.87	11.64	11.40
200	9.99	15.85	14.63	13.90	13.41	12.80	12.44	12.19	11.95

Pressure Loss Tables

Pressure Loss Per 100 Feet

3" HDPE - SDR11 (40% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
30	1.50	0.51	0.47	0.45	0.43	0.41	0.40	0.39	0.38
31	1.55	0.54	0.50	0.47	0.46	0.44	0.42	0.42	0.41
32	1.60	0.57	0.53	0.50	0.48	0.46	0.45	0.44	0.43
33	1.65	0.61	0.56	0.53	0.51	0.49	0.48	0.47	0.46
34	1.70	0.64	0.59	0.56	0.54	0.52	0.50	0.49	0.48
35	1.75	0.68	0.62	0.59	0.57	0.55	0.53	0.52	0.51
36	1.80	0.71	0.66	0.62	0.60	0.58	0.56	0.55	0.54
37	1.85	0.75	0.69	0.66	0.63	0.61	0.59	0.58	0.57
38	1.90	0.79	0.73	0.69	0.67	0.64	0.62	0.61	0.59
39	1.95	0.83	0.76	0.72	0.70	0.67	0.65	0.64	0.62
40	2.00	0.87	0.80	0.76	0.73	0.70	0.68	0.67	0.65
41	2.05	0.91	0.84	0.79	0.77	0.73	0.71	0.70	0.68
42	2.10	0.95	0.87	0.83	0.80	0.77	0.74	0.73	0.71
43	2.15	0.99	0.91	0.87	0.84	0.80	0.78	0.76	0.75
44	2.20	1.03	0.95	0.91	0.87	0.83	0.81	0.79	0.78
45	2.25	1.08	0.99	0.94	0.91	0.87	0.84	0.83	0.81
46	2.30	1.12	1.04	0.98	0.95	0.91	0.88	0.86	0.85
47	2.35	1.17	1.08	1.02	0.99	0.94	0.92	0.90	0.88
48	2.40	1.21	1.12	1.06	1.03	0.98	0.95	0.93	0.91
49	2.45	1.26	1.16	1.11	1.07	1.02	0.99	0.97	0.95
50	2.50	1.31	1.21	1.15	1.11	1.06	1.03	1.01	0.99
52	2.60	1.41	1.30	1.23	1.19	1.14	1.10	1.08	1.06
54	2.70	1.51	1.39	1.32	1.28	1.22	1.18	1.16	1.14
56	2.80	1.61	1.49	1.41	1.37	1.30	1.27	1.24	1.22
58	2.90	1.72	1.59	1.51	1.46	1.39	1.35	1.32	1.30
60	3.00	1.83	1.69	1.61	1.55	1.48	1.44	1.41	1.38
62	3.10	1.95	1.80	1.71	1.65	1.57	1.53	1.50	1.47
64	3.20	2.07	1.91	1.81	1.75	1.67	1.62	1.59	1.56
66	3.30	2.19	2.02	1.92	1.85	1.77	1.72	1.68	1.65
68	3.40	2.31	2.13	2.03	1.96	1.87	1.81	1.78	1.74
70	3.50	2.44	2.25	2.14	2.06	1.97	1.91	1.88	1.84
72	3.60	2.57	2.37	2.25	2.17	2.07	2.02	1.98	1.94
74	3.70	2.70	2.49	2.37	2.29	2.18	2.12	2.08	2.04
76	3.80	2.84	2.62	2.49	2.40	2.29	2.23	2.18	2.14
78	3.90	2.98	2.75	2.61	2.52	2.41	2.34	2.29	2.25
80	4.00	3.12	2.88	2.74	2.64	2.52	2.45	2.40	2.35
82	4.10	3.27	3.02	2.87	2.76	2.64	2.56	2.51	2.46
84	4.20	3.42	3.15	3.00	2.89	2.76	2.68	2.63	2.58
86	4.29	3.57	3.29	3.13	3.02	2.88	2.80	2.74	2.69
88	4.39	3.72	3.44	3.26	3.15	3.01	2.92	2.86	2.81
90	4.49	3.88	3.58	3.40	3.28	3.13	3.05	2.99	2.93
92	4.59	4.04	3.73	3.54	3.42	3.26	3.17	3.11	3.05
94	4.69	4.21	3.88	3.69	3.56	3.40	3.30	3.24	3.17
96	4.79	4.37	4.04	3.84	3.70	3.53	3.43	3.36	3.30
98	4.89	4.54	4.19	3.98	3.84	3.67	3.56	3.49	3.43
100	4.99	4.72	4.35	4.14	3.99	3.81	3.70	3.63	3.56
102	5.09	4.89	4.52	4.29	4.14	3.95	3.84	3.76	3.69
104	5.19	5.07	4.68	4.45	4.29	4.10	3.98	3.90	3.82
106	5.29	5.25	4.85	4.61	4.45	4.24	4.12	4.04	3.96
108	5.39	5.44	5.02	4.77	4.60	4.39	4.27	4.18	4.10
110	5.49	5.63	5.19	4.93	4.76	4.54	4.41	4.33	4.24
112	5.59	5.82	5.37	5.10	4.92	4.70	4.56	4.47	4.38

Pressure Loss Per 100 Feet

3" HDPE - SDR11 (40% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
114	5.69	6.01	6.01	5.27	5.09	4.85	4.72	4.62	4.53
116	5.79	6.21	6.21	5.44	5.25	5.01	4.87	4.77	4.68
118	5.89	6.41	6.41	5.62	5.42	5.17	5.03	4.93	4.83
120	5.99	6.61	6.61	5.80	5.59	5.34	5.19	5.08	4.98
122	6.09	6.81	6.81	5.98	5.77	5.50	5.35	5.24	5.14
124	6.19	7.02	7.02	6.16	5.94	5.67	5.51	5.40	5.29
126	6.29	7.23	7.23	6.34	6.12	5.84	5.67	5.56	5.45
128	6.39	7.45	7.45	6.53	6.30	6.01	5.84	5.73	5.61
130	6.49	7.66	7.66	6.72	6.48	6.19	6.01	5.89	5.78
132	6.59	7.88	7.88	6.91	6.67	6.37	6.18	6.06	5.94
134	6.69	8.11	8.11	7.11	6.86	6.55	6.36	6.23	6.11
136	6.79	8.33	8.33	7.31	7.05	6.73	6.54	6.41	6.28
138	6.89	8.56	8.56	7.51	7.24	6.91	6.72	6.58	6.45
140	6.99	8.79	8.79	7.71	7.44	7.10	6.90	6.76	6.63
142	7.09	9.02	9.02	7.91	7.63	7.29	7.08	6.94	6.80
144	7.19	9.26	9.26	8.12	7.84	7.48	7.27	7.12	6.98
146	7.29	9.50	9.50	8.33	8.04	7.67	7.45	7.31	7.16
148	7.39	9.74	9.74	8.54	8.24	7.87	7.64	7.49	7.34
150	7.49	9.99	9.99	8.76	8.45	8.07	7.84	7.68	7.53
155	7.74	10.61	10.61	9.30	8.98	8.57	8.33	8.16	8.00
160	7.99	11.25	11.25	9.87	9.52	9.09	8.83	8.66	8.48
165	8.24	11.91	11.91	10.45	10.08	9.62	9.35	9.16	8.98
170	8.49	12.59	12.59	11.04	10.65	10.17	9.88	9.68	9.49
175	8.74	13.28	13.28	11.65	11.24	10.73	10.42	10.22	10.01
180	8.99	13.99	13.99	12.27	11.84	11.30	10.98	10.76	10.55
185	9.24	14.72	14.72	12.91	12.45	11.89	11.55	11.32	11.10
190	9.49	15.46	15.46	13.56	13.08	12.49	12.13	11.90	11.66
195	9.74	16.23	16.23	14.23	13.73	13.10	12.73	12.48	12.23
200	9.99	17.00	17.00	14.91	14.39	13.73	13.34	13.08	12.82

Pressure Loss Tables

Pressure Loss Per 100 Feet

3" HDPE - SDR11 (50% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
30	1.50	0.54	0.49	0.47	0.45	0.43	0.42	0.41	0.40
31	1.55	0.57	0.52	0.50	0.48	0.46	0.45	0.44	0.43
32	1.60	0.60	0.56	0.53	0.51	0.49	0.47	0.46	0.45
33	1.65	0.64	0.59	0.56	0.54	0.52	0.50	0.49	0.48
34	1.70	0.67	0.62	0.59	0.57	0.54	0.53	0.52	0.51
35	1.75	0.71	0.66	0.62	0.60	0.58	0.56	0.55	0.54
36	1.80	0.75	0.69	0.66	0.63	0.61	0.59	0.58	0.57
37	1.85	0.79	0.73	0.69	0.67	0.64	0.62	0.61	0.59
38	1.90	0.83	0.77	0.73	0.70	0.67	0.65	0.64	0.62
39	1.95	0.87	0.80	0.76	0.74	0.70	0.68	0.67	0.66
40	2.00	0.91	0.84	0.80	0.77	0.74	0.72	0.70	0.69
41	2.05	0.95	0.88	0.84	0.81	0.77	0.75	0.73	0.72
42	2.10	1.00	0.92	0.87	0.84	0.81	0.78	0.77	0.75
43	2.15	1.04	0.96	0.91	0.88	0.84	0.82	0.80	0.79
44	2.20	1.09	1.00	0.95	0.92	0.88	0.85	0.84	0.82
45	2.25	1.13	1.05	0.99	0.96	0.92	0.89	0.87	0.85
46	2.30	1.18	1.09	1.04	1.00	0.95	0.93	0.91	0.89
47	2.35	1.23	1.13	1.08	1.04	0.99	0.96	0.94	0.93
48	2.40	1.28	1.18	1.12	1.08	1.03	1.00	0.98	0.96
49	2.45	1.33	1.22	1.16	1.12	1.07	1.04	1.02	1.00
50	2.50	1.38	1.27	1.21	1.17	1.11	1.08	1.06	1.04
52	2.60	1.48	1.37	1.30	1.25	1.20	1.16	1.14	1.12
54	2.70	1.59	1.47	1.39	1.34	1.28	1.25	1.22	1.20
56	2.80	1.70	1.57	1.49	1.44	1.37	1.33	1.31	1.28
58	2.90	1.81	1.67	1.59	1.53	1.46	1.42	1.39	1.37
60	3.00	1.93	1.78	1.69	1.63	1.56	1.51	1.48	1.45
62	3.10	2.05	1.89	1.80	1.73	1.66	1.61	1.58	1.55
64	3.20	2.17	2.01	1.91	1.84	1.76	1.71	1.67	1.64
66	3.30	2.30	2.12	2.02	1.95	1.86	1.81	1.77	1.74
68	3.40	2.43	2.25	2.13	2.06	1.96	1.91	1.87	1.83
70	3.50	2.57	2.37	2.25	2.17	2.07	2.01	1.97	1.93
72	3.60	2.70	2.50	2.37	2.29	2.18	2.12	2.08	2.04
74	3.70	2.84	2.63	2.49	2.41	2.30	2.23	2.19	2.14
76	3.80	2.99	2.76	2.62	2.53	2.41	2.34	2.30	2.25
78	3.90	3.14	2.89	2.75	2.65	2.53	2.46	2.41	2.36
80	4.00	3.29	3.03	2.88	2.78	2.65	2.58	2.53	2.48
82	4.10	3.44	3.17	3.02	2.91	2.78	2.70	2.65	2.59
84	4.20	3.60	3.32	3.15	3.04	2.90	2.82	2.77	2.71
86	4.29	3.76	3.47	3.29	3.18	3.03	2.95	2.89	2.83
88	4.39	3.92	3.62	3.44	3.32	3.17	3.08	3.01	2.95
90	4.49	4.09	3.77	3.58	3.46	3.30	3.21	3.14	3.08
92	4.59	4.26	3.93	3.73	3.60	3.44	3.34	3.27	3.21
94	4.69	4.43	4.09	3.88	3.75	3.58	3.47	3.41	3.34
96	4.79	4.60	4.25	4.04	3.90	3.72	3.61	3.54	3.47
98	4.89	4.78	4.41	4.19	4.05	3.86	3.75	3.68	3.61
100	4.99	4.96	4.58	4.35	4.20	4.01	3.90	3.82	3.74
102	5.09	5.15	4.75	4.52	4.36	4.16	4.04	3.96	3.88
104	5.19	5.34	4.93	4.68	4.52	4.31	4.19	4.11	4.02
106	5.29	5.53	5.10	4.85	4.68	4.47	4.34	4.25	4.17
108	5.39	5.72	5.28	5.02	4.84	4.62	4.49	4.40	4.32
110	5.49	5.92	5.47	5.19	5.01	4.78	4.65	4.56	4.46
112	5.59	6.12	5.65	5.37	5.18	4.95	4.80	4.71	4.62

Pressure Loss Per 100 Feet

3" HDPE - SDR11 (50% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
114	5.69	6.33	5.84	5.55	5.35	5.11	4.96	4.87	4.77
116	5.79	6.53	6.03	5.73	5.53	5.28	5.13	5.03	4.93
118	5.89	6.74	6.22	5.91	5.71	5.45	5.29	5.19	5.08
120	5.99	6.96	6.42	6.10	5.89	5.62	5.46	5.35	5.24
122	6.09	7.17	6.62	6.29	6.07	5.79	5.63	5.52	5.41
124	6.19	7.39	6.82	6.48	6.25	5.97	5.80	5.69	5.57
126	6.29	7.61	7.03	6.68	6.44	6.15	5.97	5.86	5.74
128	6.39	7.84	7.24	6.87	6.63	6.33	6.15	6.03	5.91
130	6.49	8.07	7.45	7.07	6.83	6.52	6.33	6.21	6.08
132	6.59	8.30	7.66	7.28	7.02	6.70	6.51	6.38	6.26
134	6.69	8.53	7.88	7.48	7.22	6.89	6.69	6.56	6.43
136	6.79	8.77	8.09	7.69	7.42	7.08	6.88	6.75	6.61
138	6.89	9.01	8.32	7.90	7.62	7.28	7.07	6.93	6.79
140	6.99	9.25	8.54	8.11	7.83	7.47	7.26	7.12	6.97
142	7.09	9.50	8.77	8.33	8.04	7.67	7.45	7.31	7.16
144	7.19	9.75	9.00	8.55	8.25	7.87	7.65	7.50	7.35
146	7.29	10.00	9.23	8.77	8.46	8.08	7.85	7.69	7.54
148	7.39	10.25	9.46	8.99	8.68	8.28	8.05	7.89	7.73
150	7.49	10.51	9.70	9.22	8.89	8.49	8.25	8.09	7.92
155	7.74	11.17	10.31	9.79	9.45	9.02	8.76	8.59	8.42
160	7.99	11.84	10.93	10.39	10.02	9.57	9.29	9.11	8.93
165	8.24	12.54	11.57	11.00	10.61	10.13	9.84	9.64	9.45
170	8.49	13.25	12.23	11.62	11.21	10.70	10.40	10.19	9.99
175	8.74	13.98	12.90	12.26	11.83	11.29	10.97	10.75	10.54
180	8.99	14.73	13.60	12.92	12.46	11.90	11.56	11.33	11.10
185	9.24	15.49	14.30	13.59	13.11	12.51	12.16	11.92	11.68
190	9.49	16.28	15.03	14.27	13.77	13.15	12.77	12.52	12.27
195	9.74	17.08	15.77	14.98	14.45	13.79	13.40	13.14	12.87
200	9.99	17.90	16.52	15.70	15.14	14.46	14.04	13.77	13.49

Pressure Loss Tables

Pressure Loss Per 100 Feet

4" HDPE - SDR11 (100% Water)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
50	1.51	0.29	0.27	0.25	0.24	0.23	0.23	0.22	0.22
55	1.66	0.34	0.32	0.30	0.29	0.28	0.27	0.26	0.26
60	1.81	0.40	0.37	0.35	0.34	0.33	0.32	0.31	0.30
65	1.96	0.47	0.43	0.41	0.40	0.38	0.37	0.36	0.35
70	2.11	0.54	0.50	0.47	0.45	0.43	0.42	0.41	0.41
75	2.26	0.61	0.56	0.54	0.52	0.49	0.48	0.47	0.46
80	2.41	0.69	0.64	0.60	0.58	0.56	0.54	0.53	0.52
85	2.56	0.77	0.71	0.68	0.65	0.62	0.60	0.59	0.58
90	2.71	0.86	0.79	0.75	0.72	0.69	0.67	0.66	0.65
95	2.87	0.95	0.87	0.83	0.80	0.76	0.74	0.73	0.71
100	3.02	1.04	0.96	0.91	0.88	0.84	0.82	0.80	0.78
105	3.17	1.14	1.05	1.00	0.96	0.92	0.89	0.88	0.86
110	3.32	1.24	1.15	1.09	1.05	1.00	0.97	0.95	0.94
115	3.47	1.35	1.24	1.18	1.14	1.09	1.06	1.04	1.02
120	3.62	1.46	1.35	1.28	1.23	1.18	1.14	1.12	1.10
125	3.77	1.57	1.45	1.38	1.33	1.27	1.23	1.21	1.18
130	3.92	1.69	1.56	1.48	1.43	1.36	1.33	1.30	1.27
135	4.07	1.81	1.67	1.59	1.53	1.46	1.42	1.39	1.37
140	4.22	1.94	1.79	1.70	1.64	1.57	1.52	1.49	1.46
145	4.37	2.07	1.91	1.81	1.75	1.67	1.62	1.59	1.56
150	4.52	2.20	2.03	1.93	1.86	1.78	1.73	1.69	1.66
155	4.68	2.34	2.16	2.05	1.98	1.89	1.84	1.80	1.76
160	4.83	2.48	2.29	2.18	2.10	2.00	1.95	1.91	1.87
165	4.98	2.63	2.42	2.30	2.22	2.12	2.06	2.02	1.98
170	5.13	2.78	2.56	2.43	2.35	2.24	2.18	2.14	2.09
175	5.28	2.93	2.70	2.57	2.48	2.37	2.30	2.25	2.21
180	5.43	3.09	2.85	2.71	2.61	2.49	2.42	2.37	2.33
185	5.58	3.25	3.00	2.85	2.75	2.62	2.55	2.50	2.45
190	5.73	3.41	3.15	2.99	2.89	2.75	2.68	2.62	2.57
195	5.88	3.58	3.30	3.14	3.03	2.89	2.81	2.75	2.70
200	6.03	3.75	3.46	3.29	3.17	3.03	2.94	2.88	2.83
210	6.33	4.10	3.79	3.60	3.47	3.31	3.22	3.16	3.09
220	6.64	4.47	4.13	3.92	3.78	3.61	3.51	3.44	3.37
230	6.94	4.86	4.48	4.26	4.11	3.92	3.81	3.74	3.66
240	7.24	5.25	4.85	4.61	4.45	4.24	4.12	4.04	3.96
250	7.54	5.67	5.23	4.97	4.79	4.58	4.45	4.36	4.27
260	7.84	6.09	5.62	5.34	5.16	4.92	4.78	4.69	4.59
270	8.14	6.53	6.03	5.73	5.53	5.28	5.13	5.03	4.92
280	8.45	6.99	6.45	6.13	5.91	5.64	5.48	5.38	5.27
290	8.75	7.46	6.88	6.54	6.31	6.02	5.85	5.74	5.62
300	9.05	7.94	7.33	6.96	6.72	6.41	6.23	6.11	5.98
320	9.65	8.95	8.26	7.84	7.57	7.23	7.02	6.88	6.74
340	10.26	10.01	9.24	8.78	8.47	8.08	7.85	7.70	7.54
360	10.86	11.12	10.27	9.75	9.41	8.98	8.73	8.56	8.39
380	11.46	12.29	11.35	10.78	10.40	9.93	9.65	9.46	9.27
400	12.07	13.52	12.48	11.85	11.44	10.92	10.61	10.40	10.19
425	12.82	15.12	13.96	13.26	12.80	12.21	11.86	11.63	11.40
450	13.57	16.81	15.52	14.74	14.22	13.58	13.19	12.93	12.67
475	14.33	18.58	17.15	16.29	15.72	15.00	14.58	14.29	14.00
500	15.08	20.43	18.85	17.91	17.28	16.50	16.03	15.71	15.40

Pressure Loss Per 100 Feet

4" HDPE - SDR11 (30% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
50	1.51	0.36	0.33	0.31	0.30	0.29	0.28	0.28	0.27
55	1.66	0.43	0.39	0.37	0.36	0.34	0.33	0.33	0.32
60	1.81	0.50	0.46	0.44	0.42	0.40	0.39	0.39	0.38
65	1.96	0.58	0.54	0.51	0.49	0.47	0.46	0.45	0.44
70	2.11	0.67	0.62	0.58	0.56	0.54	0.52	0.51	0.50
75	2.26	0.76	0.70	0.66	0.64	0.61	0.59	0.58	0.57
80	2.41	0.85	0.79	0.75	0.72	0.69	0.67	0.66	0.64
85	2.56	0.95	0.88	0.84	0.81	0.77	0.75	0.73	0.72
90	2.71	1.06	0.98	0.93	0.90	0.86	0.83	0.82	0.80
95	2.87	1.17	1.08	1.03	0.99	0.95	0.92	0.90	0.88
100	3.02	1.29	1.19	1.13	1.09	1.04	1.01	0.99	0.97
105	3.17	1.41	1.30	1.24	1.19	1.14	1.11	1.09	1.06
110	3.32	1.54	1.42	1.35	1.30	1.24	1.21	1.18	1.16
115	3.47	1.67	1.54	1.46	1.41	1.35	1.31	1.28	1.26
120	3.62	1.81	1.67	1.58	1.53	1.46	1.42	1.39	1.36
125	3.77	1.95	1.80	1.71	1.65	1.57	1.53	1.50	1.47
130	3.92	2.10	1.93	1.84	1.77	1.69	1.64	1.61	1.58
135	4.07	2.25	2.07	1.97	1.90	1.81	1.76	1.73	1.69
140	4.22	2.40	2.22	2.11	2.03	1.94	1.89	1.85	1.81
145	4.37	2.56	2.37	2.25	2.17	2.07	2.01	1.97	1.93
150	4.52	2.73	2.52	2.39	2.31	2.21	2.14	2.10	2.06
155	4.68	2.90	2.68	2.54	2.46	2.34	2.28	2.23	2.19
160	4.83	3.08	2.84	2.70	2.60	2.49	2.41	2.37	2.32
165	4.98	3.26	3.01	2.86	2.76	2.63	2.56	2.51	2.46
170	5.13	3.44	3.18	3.02	2.91	2.78	2.70	2.65	2.59
175	5.28	3.63	3.35	3.18	3.07	2.93	2.85	2.79	2.74
180	5.43	3.83	3.53	3.36	3.24	3.09	3.00	2.94	2.88
185	5.58	4.03	3.72	3.53	3.41	3.25	3.16	3.10	3.03
190	5.73	4.23	3.90	3.71	3.58	3.42	3.32	3.25	3.19
195	5.88	4.44	4.10	3.89	3.75	3.58	3.48	3.41	3.34
200	6.03	4.65	4.29	4.08	3.93	3.76	3.65	3.58	3.51
210	6.33	5.09	4.70	4.46	4.31	4.11	3.99	3.91	3.84
220	6.64	5.55	5.12	4.86	4.69	4.48	4.35	4.27	4.18
230	6.94	6.02	5.56	5.28	5.10	4.86	4.72	4.63	4.54
240	7.24	6.51	6.01	5.71	5.51	5.26	5.11	5.01	4.91
250	7.54	7.03	6.49	6.16	5.94	5.67	5.51	5.40	5.30
260	7.84	7.55	6.97	6.62	6.39	6.10	5.93	5.81	5.69
270	8.14	8.10	7.48	7.10	6.85	6.54	6.36	6.23	6.11
280	8.45	8.66	8.00	7.60	7.33	7.00	6.80	6.67	6.53
290	8.75	9.25	8.53	8.11	7.82	7.47	7.25	7.11	6.97
300	9.05	9.84	9.09	8.63	8.33	7.95	7.72	7.57	7.42
320	9.65	11.09	10.24	9.73	9.39	8.96	8.70	8.53	8.36
340	10.26	12.41	11.45	10.88	10.50	10.02	9.74	9.55	9.35
360	10.86	13.79	12.73	12.10	11.67	11.14	10.82	10.61	10.40
380	11.46	15.24	14.07	13.37	12.90	12.31	11.96	11.73	11.49
400	12.07	16.76	15.47	14.70	14.18	13.54	13.15	12.89	12.64
425	12.82	18.75	17.31	16.44	15.87	15.15	14.71	14.42	14.14
450	13.57	20.84	19.24	18.28	17.64	16.83	16.35	16.03	15.71
475	14.33	23.04	21.26	20.20	19.49	18.61	18.07	17.72	17.36
500	15.08	25.33	23.38	22.21	21.43	20.46	19.87	19.48	19.09

Pressure Loss Tables

Pressure Loss Per 100 Feet

4" HDPE - SDR11 (40% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
50	1.51	0.38	0.35	0.34	0.32	0.31	0.30	0.30	0.29
55	1.66	0.46	0.42	0.40	0.39	0.37	0.36	0.35	0.35
60	1.81	0.54	0.50	0.47	0.45	0.43	0.42	0.41	0.41
65	1.96	0.62	0.58	0.55	0.53	0.50	0.49	0.48	0.47
70	2.11	0.72	0.66	0.63	0.61	0.58	0.56	0.55	0.54
75	2.26	0.81	0.75	0.71	0.69	0.66	0.64	0.62	0.61
80	2.41	0.92	0.85	0.80	0.77	0.74	0.72	0.70	0.69
85	2.56	1.02	0.95	0.90	0.87	0.83	0.80	0.79	0.77
90	2.71	1.14	1.05	1.00	0.96	0.92	0.89	0.88	0.86
95	2.87	1.26	1.16	1.10	1.06	1.02	0.99	0.97	0.95
100	3.02	1.38	1.28	1.21	1.17	1.12	1.09	1.06	1.04
105	3.17	1.51	1.40	1.33	1.28	1.22	1.19	1.16	1.14
110	3.32	1.65	1.52	1.45	1.40	1.33	1.29	1.27	1.24
115	3.47	1.79	1.65	1.57	1.52	1.45	1.41	1.38	1.35
120	3.62	1.94	1.79	1.70	1.64	1.57	1.52	1.49	1.46
125	3.77	2.09	1.93	1.83	1.77	1.69	1.64	1.61	1.58
130	3.92	2.25	2.07	1.97	1.90	1.82	1.76	1.73	1.69
135	4.07	2.41	2.22	2.11	2.04	1.95	1.89	1.85	1.82
140	4.22	2.58	2.38	2.26	2.18	2.08	2.02	1.98	1.94
145	4.37	2.75	2.54	2.41	2.33	2.22	2.16	2.12	2.07
150	4.52	2.93	2.70	2.57	2.48	2.37	2.30	2.25	2.21
155	4.68	3.11	2.87	2.73	2.63	2.51	2.44	2.39	2.35
160	4.83	3.30	3.05	2.89	2.79	2.67	2.59	2.54	2.49
165	4.98	3.49	3.22	3.06	2.96	2.82	2.74	2.69	2.63
170	5.13	3.69	3.41	3.24	3.12	2.98	2.90	2.84	2.78
175	5.28	3.90	3.60	3.42	3.30	3.15	3.06	3.00	2.94
180	5.43	4.10	3.79	3.60	3.47	3.31	3.22	3.16	3.09
185	5.58	4.32	3.99	3.79	3.65	3.49	3.39	3.32	3.25
190	5.73	4.54	4.19	3.98	3.84	3.66	3.56	3.49	3.42
195	5.88	4.76	4.39	4.17	4.03	3.84	3.73	3.66	3.59
200	6.03	4.99	4.60	4.37	4.22	4.03	3.91	3.84	3.76
210	6.33	5.46	5.04	4.79	4.62	4.41	4.28	4.20	4.11
220	6.64	5.95	5.49	5.22	5.03	4.80	4.67	4.58	4.48
230	6.94	6.46	5.96	5.66	5.46	5.22	5.07	4.97	4.87
240	7.24	6.99	6.45	6.13	5.91	5.64	5.48	5.38	5.27
250	7.54	7.54	6.96	6.61	6.38	6.09	5.91	5.80	5.68
260	7.84	8.10	7.48	7.11	6.86	6.54	6.36	6.23	6.11
270	8.14	8.69	8.02	7.62	7.35	7.02	6.82	6.68	6.55
280	8.45	9.29	8.58	8.15	7.86	7.51	7.29	7.15	7.01
290	8.75	9.92	9.15	8.70	8.39	8.01	7.78	7.63	7.48
300	9.05	10.56	9.75	9.26	8.93	8.53	8.28	8.12	7.96
320	9.65	11.90	10.98	10.43	10.07	9.61	9.34	9.15	8.97
340	10.26	13.31	12.29	11.67	11.26	10.75	10.44	10.24	10.03
360	10.86	14.79	13.66	12.97	12.52	11.95	11.61	11.38	11.15
380	11.46	16.35	15.09	14.34	13.84	13.21	12.83	12.58	12.33
400	12.07	17.98	16.60	15.77	15.21	14.52	14.11	13.83	13.55
425	12.82	20.11	18.56	17.64	17.02	16.24	15.78	15.47	15.16
450	13.57	22.36	20.64	19.60	18.92	18.06	17.54	17.20	16.85
475	14.33	24.71	22.81	21.67	20.91	19.96	19.39	19.01	18.63
500	15.08	27.17	25.08	23.82	22.99	21.94	21.32	20.90	20.48

Pressure Loss Per 100 Feet

4" HDPE - SDR11 (50% Glycol)

Head (Feet of Water) Per 100 Feet of Tubing									
gpm	Velocity (ft/s)	40°F 4°C	60°F 16°C	80°F 27°C	100°F 38°C	120°F 49°C	140°F 60°C	160°F 71°C	180°F 82°C
50	1.51	0.40	0.37	0.35	0.34	0.33	0.32	0.31	0.30
55	1.66	0.48	0.44	0.42	0.41	0.39	0.38	0.37	0.36
60	1.81	0.57	0.52	0.50	0.48	0.46	0.44	0.44	0.43
65	1.96	0.66	0.61	0.58	0.56	0.53	0.51	0.50	0.49
70	2.11	0.75	0.69	0.66	0.64	0.61	0.59	0.58	0.57
75	2.26	0.86	0.79	0.75	0.72	0.69	0.67	0.66	0.64
80	2.41	0.96	0.89	0.85	0.82	0.78	0.76	0.74	0.73
85	2.56	1.08	1.00	0.95	0.91	0.87	0.85	0.83	0.81
90	2.71	1.20	1.11	1.05	1.01	0.97	0.94	0.92	0.90
95	2.87	1.32	1.22	1.16	1.12	1.07	1.04	1.02	1.00
100	3.02	1.46	1.34	1.28	1.23	1.18	1.14	1.12	1.10
105	3.17	1.59	1.47	1.40	1.35	1.29	1.25	1.23	1.20
110	3.32	1.74	1.60	1.52	1.47	1.40	1.36	1.34	1.31
115	3.47	1.89	1.74	1.65	1.60	1.52	1.48	1.45	1.42
120	3.62	2.04	1.88	1.79	1.73	1.65	1.60	1.57	1.54
125	3.77	2.20	2.03	1.93	1.86	1.78	1.73	1.69	1.66
130	3.92	2.37	2.18	2.07	2.00	1.91	1.86	1.82	1.78
135	4.07	2.54	2.34	2.22	2.15	2.05	1.99	1.95	1.91
140	4.22	2.71	2.50	2.38	2.30	2.19	2.13	2.09	2.05
145	4.37	2.90	2.67	2.54	2.45	2.34	2.27	2.23	2.18
150	4.52	3.08	2.85	2.70	2.61	2.49	2.42	2.37	2.32
155	4.68	3.28	3.02	2.87	2.77	2.65	2.57	2.52	2.47
160	4.83	3.47	3.21	3.05	2.94	2.81	2.73	2.67	2.62
165	4.98	3.68	3.39	3.22	3.11	2.97	2.89	2.83	2.77
170	5.13	3.89	3.59	3.41	3.29	3.14	3.05	2.99	2.93
175	5.28	4.10	3.79	3.60	3.47	3.31	3.22	3.15	3.09
180	5.43	4.32	3.99	3.79	3.66	3.49	3.39	3.32	3.26
185	5.58	4.54	4.19	3.99	3.85	3.67	3.57	3.50	3.43
190	5.73	4.77	4.41	4.19	4.04	3.86	3.75	3.67	3.60
195	5.88	5.01	4.62	4.39	4.24	4.05	3.93	3.85	3.78
200	6.03	5.25	4.85	4.60	4.44	4.24	4.12	4.04	3.96
210	6.33	5.75	5.30	5.04	4.86	4.64	4.51	4.42	4.33
220	6.64	6.26	5.78	5.49	5.30	5.06	4.91	4.82	4.72
230	6.94	6.80	6.28	5.96	5.75	5.49	5.33	5.23	5.12
240	7.24	7.36	6.79	6.45	6.22	5.94	5.77	5.66	5.54
250	7.54	7.93	7.32	6.96	6.71	6.41	6.22	6.10	5.98
260	7.84	8.53	7.87	7.48	7.22	6.89	6.69	6.56	6.43
270	8.14	9.15	8.44	8.02	7.74	7.39	7.18	7.04	6.89
280	8.45	9.78	9.03	8.58	8.28	7.90	7.68	7.53	7.37
290	8.75	10.44	9.64	9.15	8.83	8.43	8.19	8.03	7.87
300	9.05	11.11	10.26	9.75	9.40	8.98	8.72	8.55	8.38
320	9.65	12.52	11.56	10.98	10.60	10.12	9.83	9.63	9.44
340	10.26	14.01	12.93	12.29	11.85	11.32	10.99	10.78	10.56
360	10.86	15.57	14.38	13.66	13.18	12.58	12.22	11.98	11.74
380	11.46	17.21	15.89	15.09	14.56	13.90	13.50	13.24	12.97
400	12.07	18.92	17.47	16.60	16.01	15.29	14.85	14.56	14.27
425	12.82	21.17	19.54	18.56	17.91	17.10	16.61	16.29	15.96
450	13.57	23.53	21.72	20.64	19.91	19.01	18.46	18.10	17.74
475	14.33	26.01	24.01	22.81	22.01	21.01	20.41	20.01	19.61
500	15.08	28.60	26.40	25.08	24.20	23.10	22.44	22.00	21.56

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