



# GeoHeader® Data Table

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### VHE Circuit Sizing Table (Water)

VERTICAL HEAT EXCHANGER (VHE)				2" Circuit Pipe			3" Circuit Pipe			4" Circuit Pipe		
Pipe Size (IPS DR11)	Flow Rate (GPM)	Reynolds Number	Hd Loss (ft hd/100')	Optm # VHEs	S/R Hd Loss (ft hd/100')	Flush/Purge (GPM)	Optm # VHEs	S/R Hd Loss (ft hd/100')	Flush/Purge (GPM)	Optm # VHEs	S/R Hd Loss (ft hd/100')	Flush/Purge (GPM)
3/4	2.0	4739	1.02	17	2.91	62	58	3.00	210	115	3.06	416
	2.5	5923	1.49	13	2.69	47	46	2.95	167	91	3.00	329
	3.0	7108	2.04	11	2.76	40	39	3.04	141	76	3.01	275
	3.5	8293	2.65	10	3.06	36	33	2.97	136	65	3.00	269
4.0	9477	3.34	9	3.22	41	29	3.00	132	57	3.01	259	
1	3.5	6622	0.92	10	3.06	57	33	2.97	187	65	3.00	368
	4.0	7568	1.15	9	3.22	51	29	3.00	164	57	3.01	323
	4.5	8513	1.41	8	3.22	45	26	3.04	147	51	3.05	289
	5.0	9459	1.69	7	3.06	40	23	2.95	131	46	3.06	262
	5.5	10405	2.00	6	2.76	34	21	2.97	137	41	4.22	267
	6.0	11351	2.32	6	3.22	37	19	2.90	124	38	3.01	247
	6.5	12297	2.67	5	2.69	31	18	3.04	136	35	1.81	265
	7.0	13243	3.03	5	3.06	31	17	3.14	129	32	2.92	243
7.5	14189	3.42	4	2.33	25	15	2.84	114	30	2.94	227	
1 1/4	6.0	8992	0.77	5	3.22	45	19	2.90	172	38	3.01	344
	7.0	10491	1.01	5	3.06	45	16	2.81	145	32	2.02	290
	8.0	11990	1.27	4	2.62	36	14	2.81	127	28	2.92	255
	9.0	13488	1.56	4	3.22	36	13	3.04	118	25	2.94	228
	10.0	14987	1.87	3	2.33	27	12	3.18	137	23	3.06	262
	11.0	16486	2.21	3	2.76	28	11	3.23	125	21	3.09	239
	12.0	17984	2.57	3	3.22	28	10	3.18	114	19	3.01	216
	13.0	19483	2.95	2	1.81	19	9	3.04	137	17	2.85	258
14.0	20982	3.36	2	2.07	19	8	2.81	121	16	2.92	243	

### VHE Circuit Sizing Table (25% Propylene Glycol @ 30°F)

VERTICAL HEAT EXCHANGER (VHE)				2" Circuit Pipe			3" Circuit Pipe			4" Circuit Pipe		
Pipe Size (IPS DR11)	Flow Rate (GPM)	Reynolds Number	Hd Loss (ft hd/100')	Optm # VHEs	S/R Hd Loss (ft hd/100')	Flush/Purge (GPM)	Optm # VHEs	S/R Hd Loss (ft hd/100')	Flush/Purge (GPM)	Optm # VHEs	S/R Hd Loss (ft hd/100')	Flush/Purge (GPM)
3/4	2.0	1350	1.31	14	2.98	51	48	2.99	174	95	3.00	344
	2.5	1688	1.64	11	2.89	40	38	2.94	144	76	3.00	288
	3.0	2026	3.16	9	2.80	33	32	2.99	146	63	2.97	287
	3.5	2363	4.08	8	2.98	36	27	2.91	136	54	2.97	273
4.0	2701	5.09	7	2.98	32	24	2.99	137	47	2.94	267	
1	3.5	1887	0.93	8	2.98	45	27	2.91	153	54	2.97	306
	4.0	2157	1.78	7	2.98	40	24	2.99	137	48	3.05	273
	4.5	2426	2.17	6	2.80	34	21	2.91	137	42	2.97	273
	5.0	2696	2.58	5	2.45	28	19	2.94	124	39	3.14	254
	5.5	2965	3.03	5	2.89	31	17	2.86	129	35	3.07	265
	6.0	3235	3.50	5	3.35	31	16	2.99	121	32	3.05	243
	6.5	3504	4.01	4	2.62	25	15	3.07	137	29	2.96	264
	7.0	3774	4.54	4	2.98	25	14	3.10	127	27	2.97	246
7.5	4044	5.10	4	3.35	25	13	3.07	118	25	2.93	228	
1 1/4	6.0	2563	1.18	4	2.29	36	16	2.99	146	32	3.05	291
	7.0	2990	1.53	4	2.98	36	14	3.10	127	27	2.97	246
	8.0	3417	1.91	3	2.29	27	12	2.99	137	24	3.05	273
	9.0	3844	2.33	3	2.80	28	11	3.16	125	21	2.97	239
	10.0	4271	2.78	3	3.35	28	10	3.21	114	19	3.00	216
	11.0	4698	3.26	2	1.97	19	9	3.16	102	17	2.91	193
	12.0	5125	3.78	2	2.29	19	8	2.99	91	16	3.05	182
	13.0	5552	4.33	2	2.62	19	7	2.72	106	15	3.14	228
14.0	5979	4.92	2	2.98	19	7	3.10	106	14	3.17	212	

Pipe material is IPS high density polyethylene (HDPE) pipe. The pipe pressure ratings are DR11 (160 psi) for 2" pipe and smaller and DR15.5 (110 psi) for 3" and larger pipe. The data on the table above is based on approximately 3 feet of head loss per 100' of pipe for the supply/return header (circuit) piping. See back page of this data sheet for an explanation of data sheet tables.