Need help?

The accompanying tables make it easy to determine the proper size of the Chilled Water Unit required to continuously chill water or a comparable liquid to the desired end temperature. For more information or solutions to specific problems that cannot be addressed with the material provided here please contact our main office and allow our engineers to assist you.

The tables show gallons per hour of throughput and tons of refrigeration required per cooling section over a wide range of temperatures and capacities. One table refers to a single section having 21 corrugations; the other to a single section having 32 corrugations - both sections being of 60" effective lengths.

Standard outer finish of the stainless steel cooling sections is 2B wire brushed. Welds are ground flush plus 2B or No. 4 finish is optional at an extra cost.

Refrigerants

All capacity and tonnage ratings are based on the use of 26°F, 28°F or 30°F full-flooded or liquid recirculated (4:1) ammonia at temperatures listed. R-22 may be considered as having the same values as ammonia at the various capacities and temperatures shown on these tables.

Selecting Section Size

Cooling sections having 60" effective length and either 21 or 32 corrugations will perform as listed on these tables, however, it is generally more economical to select 32 sections for services in which liquid is to be cooled over a wide capacity range while those having 21 corrugations are more suited for a narrow temperature range.

Units for Special Services

The same design principles responsible for these highly efficient water cooling rates are also applied extensively to the chilling of brine solutions, glycols, alcohol and other liquids. Capacities and other engineering data is available upon request.

* Note: 32 corrugation sections are interchangeable with former 36 corrugation sections.

ASME - Cooler sections are certified for 250 PSIG at 200°F.

Capacities per 21-Corrugation, 28 sq. ft. Cooling Section

Cooling from Temp. (°F)	Number of Corrugations	Cool Water with 26°F Full Flooded Ammonia to: 33°F Gallons per Hr.	33°F Tons Refrig.	34°F Gallons per Hr.	34°F Tons Refrig.	36°F Gallons per Hr.	36°F Tons Refrig.	40°F Gallons per Hr.	40°F Tons Refrig.
36	21	2000	4.17	2000	2.78				
38	21	1657	5.75	2000	5.56	2000	2.78		
40	21	1286	6.25	1618	6.74	2000	5.56		
45	21	891	7.43	1047	8.00	1436	8.98	2000	6.94
50	21	723	8.54	827	9.20	1055	10.26	1768	12.28
55	21	628	9.59	704	10.27	865	11.42	1313	13.67
60	21	564	10.58	628	11.34	754	12.57	1080	15.00
65	21	518	11.51	574	12.35	678	13.66	864	15.00
70	21	484	12.44	532	13.29	622	14.68	720	15.00
75	21	458	13.37	500	14.24	554	15.00	617	15.00
80	21	436	14.23	470	15.00	491	15.00	540	15.00
85	21	415	15.00	424	15.00	441	15.00	480	15.00
90	21	379	15.00	387	15.00	400	15.00	432	15.00
95	21	348	15.00	354	15.00	366	15.00	393	15.00
Temp.	Corr.	Cool Water with 28°F Full Flooded Ammonia to:							
36	21	1832	3.82	2000	2.78				
38	21	1236	4.30	1738	4.83	2000	2.78		
40	21	981	4.77	1277	5.32	2000	5.56		
45	21	701	5.84	859	6.56	1210	7.56	2000	6.94
50	21	576	6.80	685	7.61	894	8.69	1550	10.78
55	21	511	7.81	594	8.66	745	9.83	1159	12.07
60	21	464	8.71	531	9.59	654	10.90	958	13.31
65	21	429	9.54	490	10.55	591	11.71	834	14.49
70	21	404	10.38	455	11.39	547	12.92	720	15.00
75	21	384	11.21	432	12.31	512	13.86	617	15.00
80	21	367	11.98	412	13.18	487	14.87	540	15.00
85	21	353	12.76	394	13.98	441	15.00	480	15.00
90	21	342	13.53	382	14.85	400	15.00	432	15.00
95	21	332	14.31	354	15.00	366	15.00	393	15.00
Temp.	Corr.	Cool Water with 30°F Full Flooded Ammonia to:							
36	21	1151	2.40	2000	2.78				
38	21	819	2.84	1188	3.30	2000	2.78		
40	21	665	3.23	895	3.73	1738	4.83		
45	21	495	4.13	623	4.76	970	6.06	2000	6.94
50	21	420	4.96	511	5.68	738	7.18	1330	9.23
55	21	380	5.80	452	6.60	624	8.23	1003	10.45
60	21	348	6.52	410	7.40	553	9.22	840	11.67
65	21	326	7.25	381	8.20	504	10.15	735	12.76
70	21	310	7.97	358	8.95	469	11.08	665	13.85
75	21	296	8.64	341	9.70	449	12.16	612	14.88
80	21	284	9.25	327	10.44	429	13.10	540	15.00
85	21	275	9.92	316	11.19	411	13.99	480	15.00
90	21	268	10.59	307	11.93	393	14.74	432	15.00
95	21	259	11.15	298	12.62	366	15.00	393	15.00

Maximum flow rate per 21 corrugation section is 2000 gph. Allowable refrigeration is 15 tons R.

Capacities per 32-Corrugation, 42.75 sq. ft. Cooling Section

Cooling from Temp. (°F)	Number of Corrugations	Cool Water with 26°F Full Flooded Ammonia to: 33°F Gallons per Hr.	33°F Tons Refrig.	34°F Gallons per Hr.	34°F Tons Refrig.	36°F Gallons per Hr.	36°F Tons Refrig.	40°F Gallons per Hr.	40°F Tons Refrig.
36	32	3000	6.25	3000	4.17				
38	32	2485	8.63	3000	8.33	3000	4.17		
40	32	1929	9.38	2427	10.11	3000	8.33		
45	32	1337	11.15	1571	12.00	2154	13.47	3000	10.42
50	32	1085	12.81	1241	13.80	1583	15.39	2652	18.42
55	32	942	14.39	1056	15.41	1298	17.13	1920	20.00
60	32	846	15.87	942	17.01	1131	18.86	1440	20.00
65	32	777	17.27	861	18.53	993	20.00	1152	20.00
70	32	726	18.66	798	19.94	847	20.00	960	20.00
75	32	687	20.00	702	20.00	739	20.00	823	20.00
80	32	613	20.00	626	20.00	655	20.00	720	20.00
85	32	554	20.00	565	20.00	588	20.00	640	20.00
90	32	505	20.00	514	20.00	533	20.00	576	20.00
95	32	465	20.00	472	20.00	488	20.00	524	20.00
Temp.	Corr.	Cool Water with 28°F Full Flooded Ammonia to:							
36	32	2748	5.73	3000	4.17				
38	32	1854	6.45	2607	7.25	3000	4.17		
40	32	1472	7.16	1916	7.98	3000	8.33		
45	32	1052	8.76	1289	9.84	1815	11.34	3000	10.42
50	32	864	10.20	1028	11.42	1341	13.04	2325	16.17
55	32	767	11.72	891	12.99	1118	14.75	1739	18.11
60	32	696	13.07	797	14.39	981	16.35	1437	19.97
65	32	644	14.31	735	15.83	887	17.87	1152	20.00
70	32	606	15.57	683	17.09	821	19.38	960	20.00
75	32	576	16.82	648	18.47	738	20.00	823	20.00
80	32	551	17.97	618	19.77	654	20.00	720	20.00
85	32	530	19.14	565	20.00	588	20.00	640	20.00
90	32	505	20.00	514	20.00	533	20.00	576	20.00
95	32	465	20.00	472	20.00	488	20.00	524	20.00
Temp.	Corr.	Cool Water with 30°F Full Flooded Ammonia to:							
36	32	1727	3.60	3000	4.17				
38	32	1229	4.26	1782	4.95	3000	4.17		
40	32	998	4.85	1343	5.60	2607	7.25		
45	32	743	6.20	935	7.14	1455	9.09	3000	10.42
50	32	630	7.44	767	8.52	1107	10.77	1995	13.85
55	32	570	8.70	678	9.90	936	12.35	1505	15.68
60	32	522	9.78	615	11.10	830	13.83	1260	17.51
65	32	489	10.88	572	12.30	756	15.23	1103	19.14
70	32	465	11.96	537	13.43	704	16.62	960	20.00
75	32	444	12.96	512	14.55	674	18.24	823	20.00
80	32	426	13.88	491	15.66	644	19.65	720	20.00
85	32	412	14.88	474	16.79	588	20.00	640	20.00
90	32	402	15.89	461	17.90	533	20.00	576	20.00
95	32	389	16.73	447	18.93	488	20.00	524	20.00

Maximum flow rate per 32 corrugation section is 3000 gph. Allowable refrigeration is 20 tons R.

SHORT GAS FLOW COOLING SECTIONS

NUMBER OF CORRUGATIONS	DIMENSIONS		INTERNAL VOLUME
	A	B	
32	45 1/8"	42 1/2"	6.75 GALLON (US)
21	29 13/16"	27 3/16"	4.50 GALLON (US)

Dimension drawing below and table show size and fluid capacity of these sections.

A.S.M.E. certification 250 PSIG at 200°F