

SunDanzter - Commercial Duty System Sizing

Step 1 → Determine Watt-Hour/Day Energy Use							Step 2 → Determine System Size					
Design Ambient Deg F	Beverage Cooling Capacity (12 oz. Cans/Week)						Sun-Hrs → Watt-Hours Per Day	3 Rated Watts	4 Rated Watts	5 Rated Watts	6 Rated Watts	12 V Battery, Amp-Hrs
	5.8 Cu.ft.			8 Cu.ft.								
	200 Cans	400 Cans	600 Cans	200 Cans	400 Cans	600 Cans						
70	175	264	350	202	306	405	100	63	48	38	32	75
72	186	281	372	218	329	435	120	76	57	46	38	90
74	200	302	399	235	355	470	140	89	67	53	44	105
76	215	325	430	254	384	508	160	102	76	61	51	120
78	233	351	465	275	416	551	180	114	86	69	57	135
80	252	381	504	299	451	597	200	127	95	76	63	150
82	273	413	547	324	489	648	220	140	105	84	70	165
84	297	449	594	351	530	702	240	152	114	91	76	180
86	322	487	645	380	574	760	260	165	124	99	83	195
88	350	529	700	411	621	823	280	178	133	107	89	210
90	379	573	759	444	671	889	300	190	143	114	95	225
92	411	621	822	479	724	959	350	222	167	133	111	263
94	444	671	889	516	780	1033	400	254	190	152	127	300
96	480	725	960	555	839	1111	450	286	214	171	143	338
98	517	782	1035	596	901	1193	500	317	238	190	159	375
100	557	842	1114	639	966	1278	550	349	262	210	175	413
102	598	904	1197	684	1034	1368	600	381	286	229	190	450
104	642	970	1284	731	1105	1462	650	413	310	248	206	488
106	687	1039	1375	780	1178	1560	700	444	333	267	222	525
108	735	1111	1470	831	1255	1661	750	476	357	286	238	563
110	785	1185	1569	883	1335	1767	800	508	381	305	254	600
The Design Ambient Temperature is the maximum average weekly temperature that the cabinet is expected to operate in. If during a warm week the daily high is 100F and the daily low is 80F, then then design ambient is 90F. Example: 8 cu.ft. refrigerator at 90F, 400 cans per week = 671 watt-hour/day In a 5 sun-hr/day region, you need at least a 250 Watt panel (rated) and a 500 amp-hr battery capacity (12 V).							850	540	405	324	270	638
							900	571	429	343	286	675
							950	603	452	362	302	713
							1000	635	476	381	317	750
							1050	667	500	400	333	788
							1100	698	524	419	349	825
							1150	730	548	438	365	863
							1200	762	571	457	381	900