

# SunDanzer - System Sizing for Residential Use

Step 1 → Determine Watt-Hour/Day Energy Use						Step 2 → Determine System Size						
Design Ambient Temperature °C	SunDanzer Model					Sun-Hours →	3	4	5	6	Battery Size	
	Upright	Refrigerators (38°C)		Freezers (10°C)							Amps-Hrs @ 12 V	Amps-Hrs @ 24 V
	DCRF134 4 cu ft / .7 cu ft	DCR165 5.8 cu ft	DCR225 8 cu ft	DCF165 5.8 cu ft	DCF225 8 cu ft	Watt-Hours/day Energy Use	Rated Watts PV	Rated Watts PV	Rated Watts PV	Rated Watts PV		
21	460	117	135	407	541	100	63	48	38	32	65	32
22	477	124	145	422	559	120	76	57	46	38	78	39
23	507	133	157	439	578	140	89	67	53	44	91	45
24	536	143	169	459	600	160	102	76	61	51	104	52
26	566	155	184	480	623	180	114	86	69	57	117	58
27	595	168	199	505	647	200	127	95	76	63	130	65
28	625	182	216	531	674	220	140	105	84	70	143	71
29	654	198	234	560	702	240	152	114	91	76	156	78
30	684	215	253	591	732	260	165	124	99	83	169	84
31	713	233	274	625	764	280	178	133	107	89	181	91
32	720	253	296	661	797	300	190	143	114	95	194	97
33	772	274	320	699	833	350	222	167	133	111	227	113
34	802	296	344	739	869	400	254	190	152	127	259	130
36	831	320	370	782	908	450	286	214	171	143	292	146
37	861	345	398	828	948	500	317	238	190	159	324	162
38	890	371	426	875	990	550	349	262	210	175	356	178
39	920	399	456	925	1034	600	381	286	229	190	389	194
40	949	428	487	977	1080	650	413	310	248	206	421	211
41	979	458	520	1032	1127	700	444	333	267	222	454	227
42	1008	490	554	1089	1176	750	476	357	286	238	486	243
43	1050	523	589	1148	1227	800	508	381	305	254	519	259
						850	540	405	324	270	551	275
						900	571	429	343	286	583	292
						950	603	452	362	302	616	308
						1000	635	476	381	317	648	324
						1050	667	500	400	333	681	340
						1100	698	524	419	349	713	356
						1150	730	548	438	365	745	373
						1200	762	571	457	381	778	389

**CHART INSTRUCTIONS**  
 The Design Ambient Temperature is the average weekly temperature during the warmest week of the year. If during the warmest week, the daily high is 38°C and the daily low is 22°C, then the design ambient is 30°C.  
 Example: 5.8 cu.ft. refrigerator at 30°C = 215 watt-hour/day  
 In a 5 sun-hr/day region, at least a 84 Watt panel (rated) and a 143 amp-hr battery (12 V) are required.  
 Battery Sized for 4 days of reserve power (50% depth of discharge).  
 To Convert Celsius to Farenheit, multiply by 9, divide by 5 and add 32 degrees.

**For all applications for DCR50 1.8 cu ft refrigerator, we suggest one 45 Watt panel and one 60 amp-hr battery (12V) or one 30 amp-hr battery (24V).  
 For all applications for DCF50 1.8 cu ft freezer, we suggest one 110 Watt panel and one 150 amp-hr battery (12V) or one 55 amp-hr battery (24V).  
 For all applications DDR165 5.8 cu ft direct drive refrigerator, we suggest one 150 Watt panel.**