

# PowerSafe™ DDm



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## PERFORMANCE SPECIFICATIONS

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## Introducing the PowerSafe DDM Range



The PowerSafe™ DDM range of valve regulated lead acid batteries further demonstrates EnerSys' commitment to supplying those high quality products demanded by customers in the Reserve Power marketplace. PowerSafe DDM combines the benefits of large capacity, long life cells with a choice of compact racking systems to provide reliable, cost-effective solutions for large installations.

PowerSafe DDM's enhanced cell design incorporates thick positive plates for superior operational life expectancy together with a dual pillar seal arrangement for utmost integrity. Furthermore, cells are supplied in dedicated steel containers that maintain the uniform compression necessary to ensure consistent performance throughout product life.

The combination of individual modules for easier handling and specially engineered conventional racks provide the flexibility for system design that allows simplified, front access installation even in the most difficult locations. Where operating criteria demands, PowerSafe DDM can also be supplied with seismic racks qualified to UBC 1997 Zone 4.

For those Reserve Power applications that include telecommunications, uninterruptible power supply and power generation/distribution, PowerSafe DDM provides an unrivalled solution.

### Features & Benefits

- Up to 2000Ah in a single cell
- 100% initial battery capacity
- Flame retardant container & lid
- High integrity, dual pillar seal design
- Excellent design life
- Individual modules for maximum configuration flexibility
- Simple on-site installation process
- Total front access for easy maintenance

### Construction

- Positive plates - Thick lead-tin-calcium grids minimise corrosion and prolong life
- Negative plates - Balanced lead-calcium grids optimise recombination efficiency
- Separators - Low resistance microporous glass fibre mat
- Electrolyte - Dilute sulphuric acid absorbed within the separator
- Cell box / lid - UL94 V0 flame retardant polypropylene
- Cell box - Single piece construction for optimum leak resistance

- Terminal pillar - Lead casting with threaded copper insert to provide maximum conductivity
- Pillar seal - 100% factory tested, proven ring burn with secondary epoxy resin seal
- Relief valve - Complete with integral flame arrestor

- Total front access for easy maintenance
- Adjustable feet for uneven floors
- Top termination as standard
- Reduced maintenance: no water addition required

### Installation & Operation

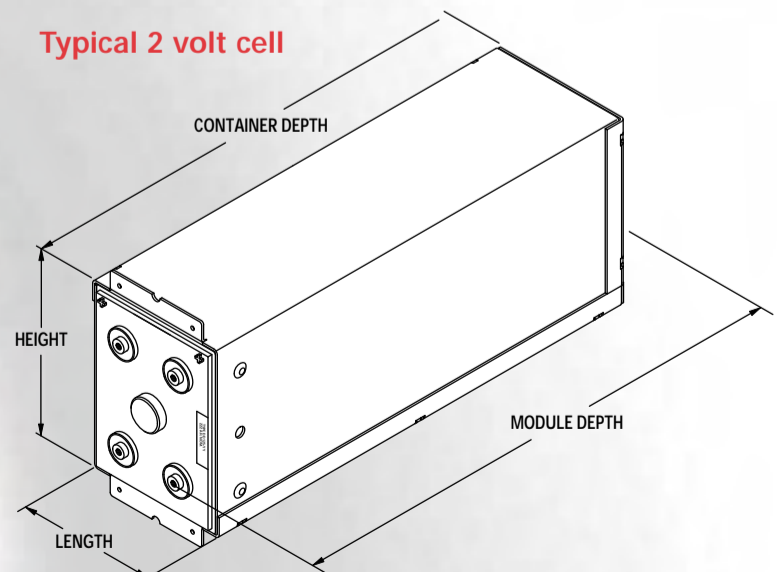
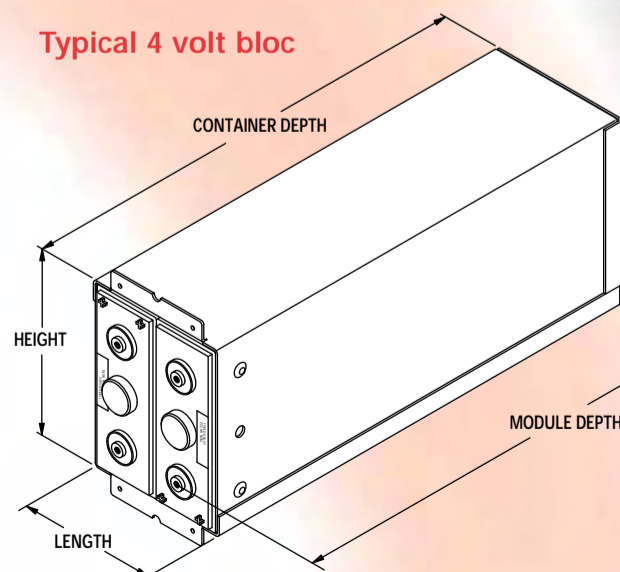
- Ease of installation due to module design concept. Simply set up rack and install modules
- Flexible configuration

### Standards

- Designed for compliance with IEC 60896-21/22
- All EnerSys production facilities are certified to ISO 9001:2000

### General Specifications

Type	Cells per Module	Nominal Voltage (V)	Nominal Capacity (Ah)		Nominal Dimensions								Typical Weight			
			10hr. rate 1.80Vpc @ 20°C	8hr. rate 1.75Vpc @ 77°F	Length		Height		Depth (container)		Depth (module)		kg	lbs		
					mm	in	mm	in	mm	in	mm	in	mm	in		
2DDm50-09	2	4	200	200	188	7.4	165	6.5	333	13.1	366	14.4	34.3	75.4		
2DDm50-13	2	4	300	300	265	10.4	165	6.5	333	13.1	366	14.4	49.5	108.9		
DDm50-17	1	2	400	400	176	6.9	165	6.5	333	13.1	366	14.4	34.0	74.7		
2DDm85-13	2	4	510	510	265	10.4	165	6.5	519	20.4	554	21.8	75.7	166.5		
2DDm85-15	2	4	595	595	303	11.9	165	6.5	519	20.4	554	21.8	88.5	194.8		
DDm85-21	1	2	850	850	214	8.4	165	6.5	519	20.4	554	21.8	64.5	142.0		
DDm85-25	1	2	1020	1020	252	9.9	165	6.5	519	20.4	554	21.8	74.4	163.7		
DDm85-27	1	2	1105	1105	271	10.7	165	6.5	519	20.4	554	21.8	80.8	177.8		
DDm85-33	1	2	1360	1360	328	12.9	165	6.5	519	20.4	554	21.8	97.9	217.5		
DDm100-21	1	2	1000	1000	214	8.4	165	6.5	590	23.2	624	24.5	73.5	163.4		
DDm100-25	1	2	1200	1200	252	9.9	165	6.5	590	23.2	624	24.5	86.5	192.1		
DDm100-27	1	2	1300	1300	271	10.7	165	6.5	590	23.2	624	24.5	92.0	204.3		
DDm100-33	1	2	1600	1600	328	12.9	165	6.5	590	23.2	624	24.5	115.3	256.3		
DDm125-25	1	2	1500	1500	252	9.9	226	8.9	562	22.1	597	23.5	112.3	249.6		
DDm125-27	1	2	1625	1625	271	10.7	226	8.9	562	22.1	597	23.5	120.8	268.4		
DDm125-33	1	2	2000	2000	328	12.9	226	8.9	562	22.1	597	23.5	144.1	320.3		



## Battery Accommodation

A comprehensive range of free-standing, conventional steel stands has been specifically designed to provide a compact and effective arrangement for PowerSafe DDm modules whilst retaining the requirements of electrical and mechanical safety, ease of installation and access.

### Constructional Details

Each stand assembly, which is individually tailored to the battery type, is built from three basic components:

- frame, fabricated from square steel tube
- runner, fabricated from square steel tube
- flat steel tie-bar

### Stand Dimensions

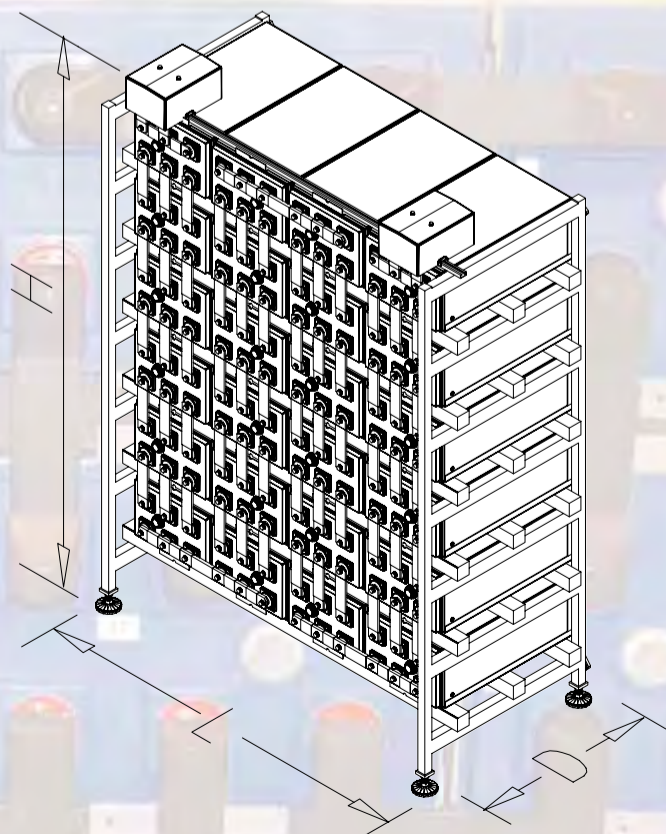
The table hereafter provides users with overall stand dimensions for a number of standard configurations.

Cell Type	Length (L)				Depth (D)	Height (H)*								
	1 Long	2 Long	3 Long	4 Long		1 High	2 High	3 High	4 High	5 High	6 High	7 High	8 High	
2DDm50-09	308	498	688	878										
2DDm50-13	385	652	919	1186	460	520	740	960	1180	1400	1620	1840	2060	
DDm50-17	296	474	652	830										
2DDm85-13	385	652	919	1186										
2DDm85-15	423	728	1033	1338										
DDm85-21	334	550	766	982										
DDm85-25	372	626	880	1134	650	520	740	960	1180	1400	1620	1840	2060	
DDm85-27	391	664	937	1210										
DDm85-33	448	778	1108	1438										
DDm100-21	334	550	766	982										
DDm100-25	372	626	880	1134	720	520	740	960	1180	1400	1620	1840	2060	
DDm100-27	391	664	937	1210										
DDm100-33	448	778	1108	1438										
DDm125-25	372	626	880	1134										
DDm125-27	391	664	937	1210	690	580	860	1140	1420	1700	1980	2260	2540	
DDm125-33	448	778	1108	1438										

\* The overall height (H) includes stand mounted terminal plates. If terminal plates are not required subtract 120mm from the height dimension.

### Example

The example shown is a battery of 24 DDm125-33 cells on one 6T4L stand (6 cells high x 4 cells long).



Discharge Rates in Amperes to 1.75Vpc at 25°C

Type	Minutes					Hours									
	1	15	30	40	50	1	2	3	4	5	6	8	10	12	24
DDm50-09	312	219	165	142	126	113	70	52	42	36	31	25	21	18	11
DDm50-13	469	329	248	213	189	169	106	78	64	54	47	38	32	27	16
DDm50-17	625	438	331	284	252	226	141	104	85	72	63	50	42	36	22
DDm85-13	781	548	414	355	315	282	176	131	106	90	79	63	53	45	27
DDm85-15	906	635	480	412	365	327	204	151	123	104	91	73	61	52	31
DDm85-21	1296	909	686	589	522	468	292	217	176	149	130	105	87	75	45
DDm85-25	1562	1095	827	710	629	564	352	261	212	179	157	126	105	90	54
DDm85-27	1687	1183	893	767	679	609	380	282	229	193	170	136	113	97	58
DDm85-33	2062	1446	1091	937	830	744	464	345	280	236	208	166	138	119	71
DDm100-21	1261	989	791	699	627	569	367	274	220	184	159	125	104	89	49
DDm100-25	1513	1187	949	839	752	682	441	329	264	221	191	150	125	107	59
DDm100-27	1639	1285	1028	908	815	739	478	356	286	240	207	163	135	116	64
DDm100-33	2017	1582	1265	1118	1003	910	588	438	352	295	255	200	167	143	78
DDm125-25	1833	1477	1199	1064	956	866	562	418	332	278	239	189	157	135	74
DDm125-27	1986	1600	1299	1152	1035	938	609	453	360	301	259	205	170	146	81
DDm125-33	2444	1969	1599	1418	1274	1155	750	557	443	370	319	252	209	179	99

Discharge Rates in Amperes to 1.78Vpc at 25°C

Type	Minutes					Hours									
	1	15	30	40	50	1	2	3	4	5	6	8	10	12	24
DDm50-09	286	202	156	136	122	110	69	52	42	35	31	25	21	18	11
DDm50-13	429	303	234	204	183	166	103	77	63	53	47	38	31	27	16
DDm50-17	572	404	312	272	244	221	137	103	84	70	62	50	42	36	21
DDm85-13	715	505	391	341	305	276	172	129	105	88	78	63	52	45	27
DDm85-15	829	586	453	395	354	320	199	150	122	102	90	73	60	52	31
DDm85-21	1186	838	648	565	506	458	285	214	174	146	129	104	86	75	44
DDm85-25	1429	1010	781	681	610	552	343	258	210	176	155	125	104	90	53
DDm85-27	1543	1091	843	735	659	596	370	279	227	190	167	135	112	97	57
DDm85-33	1886	1333	1030	898	805	728	452	341	277	232	204	165	137	119	70
DDm100-21	1148	921	742	660	595	542	356	268	216	181	157	124	103	88	49
DDm100-25	1378	1105	890	792	714	650	428	322	259	217	188	149	123	106	58
DDm100-27	1493	1197	964	858	773	705	463	348	280	236	204	161	134	115	63
DDm100-33	1837	1473	1187	1056	952	867	570	429	345	290	251	198	165	141	78
DDm125-25	1669	1368	1122	1001	902	822	542	409	330	278	239	189	157	135	74
DDm125-27	1808	1482	1216	1084	977	891	588	443	358	301	259	205	170	146	81
DDm125-33	2225	1824	1496	1334	1203	1096	723	545	440	370	319	252	209	179	99

Discharge Rates in Amperes to 1.80Vpc at 25°C

Type	Minutes					Hours									
	1	15	30	40	50	1	2	3	4	5	6	8	10	12	24
DDm50-09	269	192	150	132	120	109	67	51	41	35	31	25	21	18	10
DDm50-13	403	288	226	198	180	163	101	77	62	52	46	37	31	27	16
DDm50-17	537	384	301	264	240	217	135	102	83	70	61	49	41	36	21
DDm85-13	672	480	376	330	300	272	169	128	104	87	77	62	52	45	26
DDm85-15	779	557	436	382	348	315	195	148	120	101	89	71	60	52	30
DDm85-21	1115	797	624	547	498	451	280	212	172	144	127	102	85	74	43
DDm85-25	1343	960	752	659	600	543	337	255	207	174	153	123	103	89	52
DDm85-27	1450	1037	812	712	648	586	364	275	224	188	165	133	111	96	56
DDm85-33	1772	1267	992	870	792	716	445	336	274	230	202	163	136	117	68
DDm100-21	1080	874	708	632	572	522	347	262	212	179	155	122	102	87	48
DDm100-25	1296	1049	849	758	686	626	417	315	254	214	185	147	122	105	58
DDm100-27	1404	1136	920	821	743	679	452	341	276	232	201	159	132	113	62
DDm100-33	1728	1398	1132	1011	915	835	556	420	339	286	247	196	163	139	77
DDm125-25	1572	1295	1069	956	864	789	526	399	323	273	238	189	157	135	74
DDm125-27	1703	1403	1158	1036	936	855	570	432	350	296	257	205	170	146	81
DDm125-33	2096	1727	1425	1275	1152	1052	702	532	431	364	317	252	209	179	99

## Constant Current

### Discharge Rates in Amperes to 1.83Vpc at 25°C

Type	Minutes					Hours									
	1	15	30	40	50	1	2	3	4	5	6	8	10	12	24
DDm50-09	236	170	137	122	110	100	64	49	40	34	29	24	20	17	10
DDm50-13	354	255	205	183	166	150	96	73	59	50	44	36	30	26	15
DDm50-17	472	340	273	244	221	200	128	97	79	67	59	48	40	34	20
DDm85-13	591	425	342	305	276	250	160	122	99	84	74	60	50	43	25
DDm85-15	685	493	396	353	320	290	185	141	115	97	85	69	57	49	29
DDm85-21	980	706	567	605	458	415	265	202	164	139	122	99	82	71	42
DDm85-25	1181	850	683	609	552	500	319	243	198	168	147	119	99	85	50
DDm85-27	1275	918	738	658	596	540	345	262	214	181	159	129	107	92	54
DDm85-33	1558	1122	902	804	728	660	422	320	262	221	194	158	131	112	66
DDm100-21	953	801	654	587	533	489	331	252	205	173	150	119	99	85	47
DDm100-25	1143	961	785	704	640	587	397	303	246	208	180	143	119	102	56
DDm100-27	1238	1041	851	763	693	636	430	328	266	225	195	155	129	111	61
DDm100-33	1524	1281	1047	939	853	783	530	404	328	277	240	191	159	136	75
DDm125-25	1384	1179	985	884	802	735	497	380	310	263	230	184	154	133	74
DDm125-27	1499	1277	1067	958	869	796	538	412	336	285	249	199	167	144	81
DDm125-33	1845	1572	1313	1179	1069	980	662	507	413	351	306	245	205	177	99

### Discharge Rates in Amperes to 1.85Vpc at 25°C

Type	Minutes					Hours									
	1	15	30	40	50	1	2	3	4	5	6	8	10	12	24
DDm50-09	219	161	130	117	106	95	62	48	39	33	29	24	20	17	10
DDm50-13	328	242	194	175	158	143	93	72	59	50	44	35	29	25	15
DDm50-17	437	322	259	233	211	190	124	96	78	66	58	47	39	34	20
DDm85-13	547	403	324	292	264	238	155	120	98	83	73	59	49	42	25
DDm85-15	634	467	376	338	306	276	180	139	113	96	85	68	57	49	28
DDm85-21	907	669	538	484	438	395	257	198	162	138	121	98	81	70	41
DDm85-25	1093	806	648	583	528	476	310	239	195	166	146	118	98	84	49
DDm85-27	1180	870	700	630	570	514	335	258	211	179	158	127	106	91	53
DDm85-33	1442	1063	856	770	697	628	409	315	258	219	193	155	130	111	65
DDm100-21	868	751	619	556	506	465	318	244	199	168	146	116	97	83	46
DDm100-25	1041	902	743	667	607	558	382	293	238	202	175	140	116	100	55
DDm100-27	1128	977	805	722	658	605	414	317	258	219	190	151	126	108	60
DDm100-33	1388	1202	990	889	810	744	509	390	318	269	234	186	155	133	74
DDm125-25	1260	1100	924	833	758	696	474	365	299	254	222	179	150	130	73
DDm125-27	1365	1192	1001	902	821	754	514	395	324	276	241	194	163	141	79
DDm125-33	1680	1467	1232	1110	1010	928	633	486	398	339	296	238	200	173	98

### Discharge Rates in Amperes to 1.88Vpc at 25°C

Type	Hours									
	1	2	3	4	5	6	8	10	12	24
DDm50-09	90	59	46	38	33	29	23	19	16	9
DDm50-13	135	88	69	57	49	43	35	29	25	14
DDm50-17	180	118	92	76	65	58	46	38	33	19
DDm85-13	225	147	115	96	82	72	58	48	41	24
DDm85-15	261	171	133	111	95	84	67	56	48	27
DDm85-21	374	244	191	159	135	120	96	80	68	39
DDm85-25	450	294	230	191	163	144	116	96	82	47
DDm85-27	486	318	248	206	176	156	125	104	89	51
DDm85-33	594	389	303	252	215	191	153	127	109	62
DDm100-21	427	296	229	187	159	139	111	92	79	44
DDm100-25	512	355	274	225	191	167	133	111	95	53
DDm100-27	555	385	297	244	207	180	144	120	103	57
DDm100-33	683	473	366	300	255	222	177	148	127	70
DDm125-25	633	437	338	278	238	209	169	142	123	70
DDm125-27	686	474	366	302	258	226	183	154	133	76
DDm125-33	845	583	451	371	318	279	225	189	164	93

Discharge Rates in Amperes to 1.90Vpc at 25°C

Type	Hours										
	1	2	3	4	5	6	8	10	12	24	
DDm50-09	81	55	44	36	31	27	22	18	16	9	
DDm50-13	122	83	65	55	47	41	33	28	24	14	
DDm50-17	162	111	87	73	62	54	44	37	32	18	
DDm85-13	203	139	109	91	78	68	55	46	40	23	
DDm85-15	235	161	126	106	90	79	63	53	46	26	
DDm85-21	336	230	181	151	129	113	90	76	66	37	
DDm85-25	405	277	218	182	156	136	109	92	79	45	
DDm85-27	437	299	235	197	168	147	118	99	85	49	
DDm85-33	534	365	287	241	205	180	144	121	104	60	
DDm100-21	400	279	217	178	152	133	106	88	76	42	
DDm100-25	480	335	260	214	182	159	127	106	91	51	
DDm100-27	520	363	282	232	198	173	138	115	99	55	
DDm100-33	640	446	347	285	243	213	170	142	122	68	
DDm125-25	588	409	319	263	226	199	161	136	117	67	
DDm125-27	637	443	345	285	245	215	174	147	127	72	
DDm125-33	784	545	425	351	301	265	215	181	157	89	

Discharge Rates in Amperes to 1.94Vpc at 25°C

Type	Hours										
	1	2	3	4	5	6	8	10	12	24	
DDm50-09	71	49	39	33	29	25	20	17	14	8	
DDm50-13	107	74	58	49	43	38	30	25	22	12	
DDm50-17	142	98	77	66	58	50	40	34	29	16	
DDm85-13	178	123	97	82	72	63	50	42	36	20	
DDm85-15	206	142	112	95	84	73	58	49	42	23	
DDm85-21	295	203	160	136	120	104	83	70	60	32	
DDm85-25	355	245	193	164	144	125	100	84	72	39	
DDm85-27	383	265	208	177	156	135	108	91	78	42	
DDm85-33	468	324	254	216	191	165	132	111	95	51	
DDm100-21	344	242	190	157	135	118	94	79	68	38	
DDm100-25	412	291	228	189	162	141	113	95	82	45	
DDm100-27	447	315	247	204	175	153	123	102	88	49	
DDm100-33	550	388	304	252	215	189	151	126	109	60	
DDm125-25	491	348	273	228	197	174	141	119	104	59	
DDm125-27	532	377	296	247	213	188	153	129	112	64	
DDm125-33	655	464	365	304	262	232	189	159	138	79	

## Constant Power

### Discharge Rates in Watts per Cell to 1.60Vpc at 25°C

Type	Minutes							
	5	10	15	20	30	40	50	60
DDm50-09	604	501	437	390	312	259	225	203
DDm50-13	906	752	656	585	468	389	338	305
DDm50-17	1208	1002	874	780	624	518	450	407
DDm85-13	1510	1253	1093	975	780	648	563	509
DDm85-15	1751	1453	1267	1130	905	751	653	590
DDm85-21	2506	2079	1814	1618	1295	1075	935	844
DDm85-25	3019	2505	2185	1949	1560	1295	1126	1017
DDm85-27	3261	2705	2360	2105	1685	1399	1216	1098
DDm85-33	3986	3306	2884	2573	2059	1710	1486	1342
DDm100-21	2697	2359	2088	1904	1636	1424	1261	1130
DDm100-25	3236	2831	2505	2285	1964	1709	1513	1356
DDm100-27	3506	3067	2714	2476	2127	1852	1639	1469
DDm100-33	4315	3775	3340	3047	2618	2279	2017	1808
DDm125-25	3675	3404	3104	2872	2499	2181	1930	1718
DDm125-27	3981	3687	3362	3111	2707	2363	2091	1861
DDm125-33	4900	4538	4138	3829	3332	2908	2573	2291

### Discharge Rates in Watts per Cell to 1.65Vpc at 25°C

Type	Minutes							
	5	10	15	20	30	40	50	60
DDm50-09	571	483	426	385	310	258	225	203
DDm50-13	857	725	639	577	465	387	337	305
DDm50-17	1143	966	852	770	620	516	450	406
DDm85-13	1429	1208	1065	962	775	646	562	508
DDm85-15	1657	1401	1235	1116	898	749	652	589
DDm85-21	2371	2004	1768	1597	1286	1072	933	842
DDm85-25	2857	2415	2130	1924	1549	1291	1124	1015
DDm85-27	3086	2608	2300	2078	1673	1394	1214	1096
DDm85-33	3772	3188	2811	2540	2045	1704	1484	1340
DDm100-21	2578	2247	1988	1824	1578	1384	1234	1112
DDm100-25	3094	2696	2385	2189	1893	1661	1481	1334
DDm100-27	3352	2921	2584	2372	2051	1800	1605	1445
DDm100-33	4125	3595	3180	2919	2524	2215	1975	1779
DDm125-25	3519	3190	2950	2760	2400	2116	1892	1707
DDm125-27	3812	3456	3196	2990	2600	2292	2049	1849
DDm125-33	4692	4253	3933	3680	3200	2821	2522	2276

### Discharge Rates in Watts per Cell to 1.67Vpc at 25°C

Type	Minutes							
	5	10	15	20	30	40	50	60
DDm50-09	558	476	422	381	307	256	224	203
DDm50-13	837	714	633	571	461	384	337	304
DDm50-17	1116	952	844	761	614	512	449	405
DDm85-13	1395	1191	1056	952	768	641	561	507
DDm85-15	1618	1381	1224	1104	890	743	651	588
DDm85-21	2315	1976	1752	1579	1274	1063	931	841
DDm85-25	2789	2381	2111	1903	1535	1281	1122	1013
DDm85-27	3012	2571	2280	2055	1658	1383	1212	1094
DDm85-33	3681	3142	2787	2512	2026	1690	1481	1337
DDm100-21	2509	2184	1941	1789	1546	1364	1219	1101
DDm100-25	3011	2621	2329	2147	1856	1637	1463	1322
DDm100-27	3262	2840	2523	2326	2010	1773	1585	1432
DDm100-33	4015	3495	3105	2863	2474	2182	1951	1762
DDm125-25	3397	3107	2890	2710	2352	2084	1867	1688
DDm125-27	3680	3365	3131	2936	2548	2258	2022	1829
DDm125-33	4529	4142	3853	3613	3136	2779	2489	2251



Discharge Rates in Watts per Cell to 1.70Vpc at 25°C

Type	Minutes							
	5	10	15	20	30	40	50	60
DDm50-09	529	462	412	369	301	254	223	202
DDm50-13	794	693	618	553	452	382	335	303
DDm50-17	1058	924	824	737	602	509	446	404
DDm85-13	1323	1156	1031	922	753	636	558	505
DDm85-15	1535	1340	1195	1069	873	738	647	586
DDm85-21	2196	1918	1711	1530	1250	1056	926	838
DDm85-25	2646	2311	2061	1843	1506	1272	1116	1010
DDm85-27	2858	2496	2226	1990	1626	1374	1205	1091
DDm85-33	3493	3051	2721	2432	1987	1679	1473	1333
DDm100-21	2359	2063	1861	1730	1499	1328	1191	1079
DDm100-25	2831	2475	2234	2076	1799	1594	1430	1295
DDm100-27	3067	2681	2420	2249	1948	1727	1549	1403
DDm100-33	3775	3300	2978	2768	2398	2125	1906	1727
DDm125-25	3227	2984	2800	2610	2272	2027	1820	1652
DDm125-27	3496	3232	3033	2828	2461	2196	1971	1790
DDm125-33	4303	3978	3733	3480	3029	2703	2426	2203

Discharge Rates in Watts per Cell to 1.75Vpc at 25°C

Type	Minutes							Hours									
	5	10	15	20	30	40	50	1	2	3	4	5	6	8	10	12	24
DDm50-09	486	437	387	345	291	251	222	199	131	99	82	69	61	49	41	36	21
DDm50-13	729	656	580	517	437	376	332	299	196	149	122	104	92	74	62	53	32
DDm50-17	972	874	773	689	582	501	443	398	261	198	163	139	123	98	82	71	43
DDm85-13	1215	1093	967	862	728	627	554	498	327	248	204	174	154	123	103	89	54
DDm85-15	1409	1267	1121	999	844	727	643	578	379	287	237	201	178	143	119	103	62
DDm85-21	2016	1814	1604	1430	1208	1040	920	827	542	411	339	288	255	204	170	148	89
DDm85-25	2429	2185	1933	1723	1456	1253	1108	996	653	495	408	347	307	246	205	178	107
DDm85-27	2623	2360	2088	1861	1572	1353	1197	1076	705	535	441	375	332	266	221	192	116
DDm85-33	3206	2884	2552	2275	1921	1654	1463	1315	862	654	539	458	406	325	270	235	142
DDm100-21	2125	1875	1722	1601	1407	1252	1129	1025	678	517	419	353	306	243	202	174	96
DDm100-25	2550	2250	2066	1922	1688	1502	1355	1230	813	621	503	424	367	292	243	209	115
DDm100-27	2763	2438	2238	2082	1829	1627	1468	1333	881	673	545	459	398	316	263	226	125
DDm100-33	3400	3000	2755	2562	2251	2003	1807	1640	1084	828	670	565	490	389	324	279	154
DDm125-25	2972	2781	2579	2398	2124	1900	1721	1562	1041	788	635	533	461	367	306	264	148
DDm125-27	3219	3013	2793	2598	2301	2058	1864	1692	1128	854	687	577	500	397	331	286	160
DDm125-33	3962	3708	3438	3197	2832	2533	2294	2082	1388	1051	846	711	615	489	408	352	197

Discharge Rates in Watts per Cell to 1.78Vpc at 25°C

Type	Hours										
	1	2	3	4	5	6	8	10	12	24	
DDm50-09	198	130	98	81	69	61	49	41	35	21	
DDm50-13	297	195	148	122	104	92	74	61	53	32	
DDm50-17	396	260	197	162	138	122	98	82	71	42	
DDm85-13	496	325	246	203	173	153	123	102	89	53	
DDm85-15	575	376	285	235	200	177	142	118	103	61	
DDm85-21	823	539	408	336	286	253	203	169	147	88	
DDm85-25	991	649	492	405	345	305	245	204	177	106	
DDm85-27	1070	701	531	437	373	329	265	220	191	114	
DDm85-33	1308	857	649	534	456	402	324	269	233	139	
DDm100-21	978	658	508	413	349	303	241	201	173	96	
DDm100-25	1174	790	610	495	419	363	289	241	207	115	
DDm100-27	1272	856	660	537	453	394	313	261	224	124	
DDm100-33	1565	1053	813	661	558	484	385	321	276	153	
DDm125-25	1490	1012	771	628	532	461	367	306	264	148	
DDm125-27	1614	1096	835	680	576	500	397	331	286	160	
DDm125-33	1987	1349	1028	838	709	615	489	408	352	197	

## Constant Power

### Discharge Rates in Watts per Cell to 1.80Vpc at 25°C

Type	Hours									
	1	2	3	4	5	6	8	10	12	24
DDm50-09	197	128	98	81	68	61	49	41	35	21
DDm50-13	296	193	147	121	103	91	73	61	53	32
DDm50-17	394	257	196	161	137	121	97	81	70	42
DDm85-13	493	321	245	202	171	152	122	102	88	53
DDm85-15	572	372	284	234	198	176	141	118	102	61
DDm85-21	818	533	406	334	284	251	202	168	146	87
DDm85-25	986	642	489	403	342	303	243	203	176	105
DDm85-27	1065	693	528	435	369	327	262	219	190	113
DDm85-33	1302	847	645	532	451	400	320	268	232	138
DDm100-21	943	643	500	407	345	299	238	199	171	95
DDm100-25	1131	771	600	489	413	359	286	238	205	114
DDm100-27	1225	835	650	529	448	389	310	258	222	123
DDm100-33	1508	1028	800	651	551	479	381	318	274	152
DDm125-25	1435	986	756	617	524	457	366	306	264	148
DDm125-27	1554	1068	819	668	567	495	397	331	286	160
DDm125-33	1913	1315	1008	823	698	609	489	408	352	197

### Discharge Rates in Watts per Cell to 1.83Vpc at 25°C

Type	Hours									
	1	2	3	4	5	6	8	10	12	24
DDm50-09	184	123	94	78	66	59	47	39	34	20
DDm50-13	276	185	142	116	99	88	71	59	51	31
DDm50-17	368	246	189	155	132	117	94	79	68	41
DDm85-13	461	308	236	194	166	147	118	99	85	51
DDm85-15	534	357	274	225	192	170	136	114	99	59
DDm85-21	764	510	392	322	275	243	195	164	141	85
DDm85-25	921	615	472	388	331	293	235	197	170	102
DDm85-27	994.7	664	510	419	357	316	254	213	184	110
DDm85-33	1216	812	623	512	436	386	310	260	225	134
DDm100-21	880	616	484	395	336	292	233	195	168	93
DDm100-25	1056	739	581	474	403	351	280	234	201	112
DDm100-27	1144	801	629	514	436	380	303	253	218	121
DDm100-33	1408	985	774	632	537	468	373	312	268	149
DDm125-25	1347	938	725	594	507	443	357	300	260	148
DDm125-27	1459	1016	786	644	549	480	387	325	282	160
DDm125-33	1796	1251	967	793	676	591	476	401	347	197

### Discharge Rates in Watts per Cell to 1.85Vpc at 25°C

Type	Hours									
	1	2	3	4	5	6	8	10	12	24
DDm50-09	179	120	93	77	66	58	47	39	34	20
DDm50-13	268	181	140	116	99	88	70	59	51	30
DDm50-17	357	241	187	154	132	117	94	78	68	40
DDm85-13	447	301	234	193	165	146	117	98	85	51
DDm85-15	518	349	271	223	191	169	136	114	98	59
DDm85-21	741	500	388	320	274	242	194	163	140	84
DDm85-25	893	602	467	385	330	292	234	196	169	101
DDm85-27	964	650	504	416	356	315	253	212	183	109
DDm85-33	1178	794	616	508	435	385	309	259	224	133
DDm100-21	836	595	469	385	328	286	229	191	165	92
DDm100-25	1004	714	563	462	393	343	274	229	198	110
DDm100-27	1087	774	610	500	426	371	297	248	214	119
DDm100-33	1338	953	751	616	524	457	366	306	263	147
DDm125-25	1283	902	700	575	492	431	348	294	255	145
DDm125-27	1389	977	758	623	533	467	377	318	276	158
DDm125-33	1710	1202	933	767	656	575	464	392	340	194

Discharge Rates in Watts per Cell to 1.88Vpc at 25°C

Type	Hours										
	1	2	3	4	5	6	8	10	12	24	
DDm50-09	171	115	91	76	65	58	46	39	34	20	
DDm50-13	256	173	136	114	98	87	70	58	50	30	
DDm50-17	341	231	182	152	130	116	93	78	67	40	
DDm85-13	427	289	227	190	163	145	116	97	84	50	
DDm85-15	495	335	263	220	189	168	135	113	97	57	
DDm85-21	708	479	377	315	270	241	193	161	139	82	
DDm85-25	853	577	454	379	325	290	232	194	168	99	
DDm85-27	921	623	490	409	351	313	251	210	181	107	
DDm85-33	1126	761	599	500	429	383	307	257	221	131	
DDm100-21	769	563	443	366	312	273	219	183	158	88	
DDm100-25	923	676	531	439	374	327	263	220	189	106	
DDm100-27	999	732	575	475	405	354	285	238	205	115	
DDm100-33	1230	901	708	585	499	436	350	293	252	141	
DDm125-25	1187	840	653	541	464	408	331	280	243	140	
DDm125-27	1286	910	707	586	503	442	359	304	264	151	
DDm125-33	1583	1120	871	721	619	544	442	374	324	186	

Discharge Rates in Watts per Cell to 1.90Vpc at 25°C

Type	Hours										
	1	2	3	4	5	6	8	10	12	24	
DDm50-09	155	109	87	73	63	55	44	37	32	19	
DDm50-13	232	164	130	109	94	82	66	56	48	28	
DDm50-17	310	218	173	145	125	110	88	74	64	37	
DDm85-13	387	273	217	182	157	137	110	93	80	47	
DDm85-15	449	317	251	211	182	159	128	108	93	54	
DDm85-21	642	453	359	301	260	227	183	154	133	77	
DDm85-25	774	546	433	363	313	274	220	186	160	93	
DDm85-27	836	590	468	392	338	296	238	201	173	100	
DDm85-33	1022	721	572	479	413	362	291	246	211	122	
DDm100-21	724	540	422	350	299	262	211	176	152	85	
DDm100-25	869	648	506	420	359	314	253	212	182	102	
DDm100-27	941	702	548	455	389	341	274	229	197	110	
DDm100-33	1158	864	675	560	478	419	337	282	243	136	
DDm125-25	1120	792	618	514	441	389	317	269	233	134	
DDm125-27	1213	858	670	557	478	422	344	291	253	145	
DDm125-33	1493	1056	825	685	589	519	423	358	311	179	

Discharge Rates in Watts per Cell to 1.94Vpc at 25°C

Type	Hours										
	1	2	3	4	5	6	8	10	12	24	
DDm50-09	140	98	77	66	58	51	41	34	29	16	
DDm50-13	210	146	116	99	87	76	61	51	44	24	
DDm50-17	280	195	155	132	116	102	82	68	59	32	
DDm85-13	350	244	194	165	145	127	102	86	74	40	
DDm85-15	405	283	224	191	168	147	118	99	85	46	
DDm85-21	580	405	321	273	241	211	169	142	122	66	
DDm85-25	699	488	387	329	290	254	204	171	147	80	
DDm85-27	755	527	418	355	313	274	220	185	159	86	
DDm85-33	923	644	511	434	383	335	269	226	194	105	
DDm100-21	637	473	375	311	268	235	189	158	137	76	
DDm100-25	764	568	450	374	321	282	227	190	164	92	
DDm100-27	828	615	488	405	348	306	246	206	178	99	
DDm100-33	1019	758	600	498	428	377	303	253	218	122	
DDm125-25	950	679	540	449	389	345	282	238	207	120	
DDm125-27	1029	735	585	487	422	374	306	258	224	129	
DDm125-33	1267	905	720	599	519	460	377	318	276	159	

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