

**PowerSafe**<sup>®</sup>  
DDmP

# Battery Performance Specifications

## Features and Benefits Construction

- Capacity range 105 - 2000Ah
- Lead-calcium alloy
- Valve regulated design with recombinant technology eliminates watering requirements
- Flame retardant polypropylene jar and cover (UL94 V-0 LOI 28%)
- Module design allows for easy, fast installation, uniform and consistent compression, along with built in cell protection
- Positive plate – thick 0.252" lead-calcium-tin grids minimize corrosion and prolong life
- Negative plate – balanced lead-calcium grids optimize recombination efficiency
- Absorbed Glass Mat (AGM) separator - mechanically strong, low electrical resistance, absorbed glass mat, which completely absorbs the electrolyte into its structure
- Container/cover - standard UL94 V-0 flame retardant polypropylene (LOI 28%)
- Terminal post – square lead-tin coated copper insert cross-drilled (0.25" holes) with large surface area, to provide maximum conductivity; 2DDm35-07 has round receptacle for 1/4-20 hardware.
- Terminal seal – ring burn with secondary epoxy resin seal is 100% water bath tested in the factory and proven in service
- Relief valve – operates at 2-3 psi and is complete with integral flame arrestor

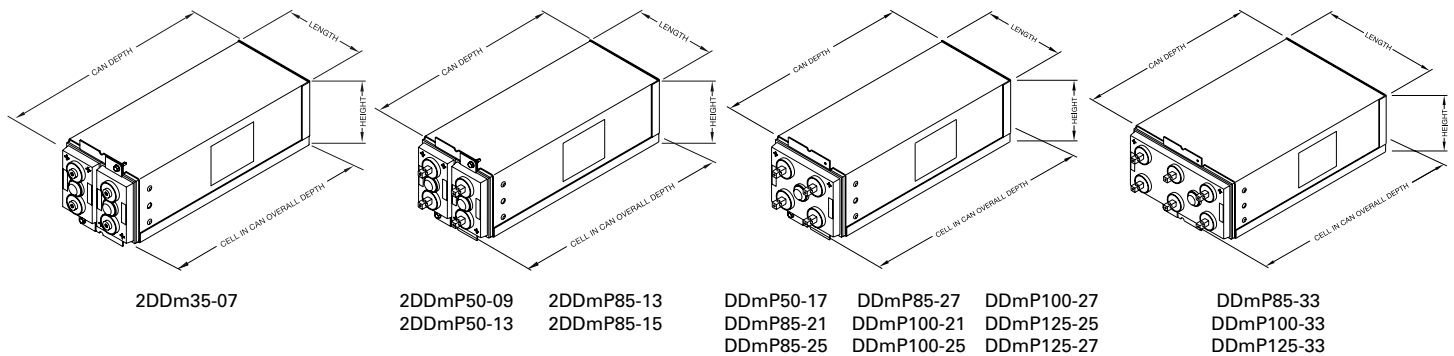
## Installation and Operation Standards

- Compact, quick and simple installation process
- Low maintenance – no watering required
- Thick plates, single piece container construction, robust construction for long life
- Welded/epoxy dual post seal design means zero leaks
- 100% "out of the box" initial capacity
- Operating temperature: -4°F (-20°C) to 122°F (50°C)  
Recommended temperature: 68°F (20°C) to 86°F (30°C)
- Initial post torque 85 in - lb (7.1 ft - lb), 9.6 Newton meters (N-m) Re-torque to 80%; 2DDm35-07 post torque 60 in - lb (5 ft - lb), 6.8 N-m
- Non-spillable classification (UN2800)
- Approved for air transportation (IATA A67)
- Recognized by UL (UL standard 1989)
- The management systems governing the manufacture of this product are ISO 9001:2008 and ISO 14001:2004 certified
- Cell is NEBSTM certified

## General Specifications

Battery Type	Number of Posts per Cells	Nominal Ah Capacity*	Nominal Dimensions												Electrolyte (1.300 S.G.)				Acid (H <sub>2</sub> SO <sub>4</sub> )					
			Length		Height		Can Depth		Cell in Can Overall Depth		Unit Weight		Lead Weight†		Internal Resistance††	Short Circuit Current (Amps)	Volume‡		Weight		Volume‡		Weight	
			in	mm	in	mm	in	mm	in	mm	lbs	kg	lbs	kg			gal	liters	lbs	kg	gal	liters	lbs	kg
2DDm35-07**	2	105	4.4	112	6.5	165	13.1	333	14.4	366	41.5	18.8	10.3	4.67	1400	1500	0.48	1.82	5.20	2.36	0.14	0.51	2.06	0.94
2DDmP50-09	2	200	7.4	188	6.5	165	13.1	333	15.2	386	75.6	34.3	22.6	10.3	825	2527	0.67	2.54	7.26	3.29	0.19	0.71	2.88	1.31
2DDmP50-13	2	300	10.4	265	6.5	165	13.1	333	15.2	386	109	49.5	32.6	14.8	550	3791	1.00	3.79	10.8	4.91	0.28	1.07	4.30	1.95
DDmP50-17	4	400	6.9	176	6.5	165	13.1	333	15.2	386	75.0	34.0	43.4	19.7	413	5048	1.33	5.03	14.4	6.53	0.37	1.42	5.71	2.59
2DDmP85-13	2	510	10.4	265	6.5	165	20.4	518	22.7	577	167	75.7	51.7	23.4	515	4049	1.56	5.91	16.9	7.66	0.44	1.66	6.70	3.04
2DDmP85-15	2	600	11.9	302	6.5	165	20.4	518	22.7	577	195	88.5	59.7	27.1	441	4728	1.85	7.00	20.0	9.09	0.52	1.97	7.95	3.60
DDmP85-21	4	850	8.4	214	6.5	165	20.4	518	22.7	577	142	64.5	84.6	38.4	309	6748	2.67	10.1	28.9	13.1	0.75	2.85	11.5	5.20
DDmP85-25	4	1020	9.9	252	6.5	165	20.4	518	22.7	577	164	74.4	101	45.6	258	8081	3.10	11.7	33.6	15.2	0.87	3.30	13.3	6.04
DDmP85-27	4	1105	10.7	271	6.5	165	20.4	518	22.7	577	178	80.8	109	49.2	238	8761	3.40	12.9	36.8	16.7	0.96	3.62	14.6	6.62
DDmP85-33	6	1360	12.9	328	6.5	165	20.4	518	22.7	577	216	97.9	134	60.7	193	10803	4.25	16.1	46.0	20.9	1.20	4.53	18.3	8.28
DDmP100-21	4	1000	8.4	214	6.5	165	23.2	590	25.5	648	162	73.5	97.8	44.4	270	7722	3.20	12.1	34.7	15.7	0.90	3.41	13.7	6.23
DDmP100-25	4	1200	9.9	252	6.5	165	23.2	590	25.5	648	191	86.5	116	52.8	225	9267	3.84	14.5	41.6	18.9	1.08	4.09	16.5	7.48
DDmP100-27	4	1300	10.7	271	6.5	165	23.2	590	25.5	648	203	92.0	126	57.0	208	10024	4.15	15.7	44.9	20.4	1.17	4.42	17.8	8.09
DDmP100-33	6	1600	12.9	328	6.5	165	23.2	590	25.5	648	254	115	154	70.0	169	12337	5.10	19.3	55.2	25.0	1.44	5.43	21.9	9.94
DDmP125-25	4	1500	9.9	252	8.9	226	22.1	562	24.4	620	248	112	156	70.9	168	12411	4.80	18.2	52.0	23.6	1.35	5.11	20.6	9.35
DDmP125-27	4	1625	10.7	271	8.9	226	22.1	562	24.4	620	266	121	169	76.5	155	13452	5.30	20.1	57.4	26.0	1.49	5.65	22.8	10.3
DDmP125-33	6	2000	12.9	328	8.9	226	22.1	562	24.4	620	318	144	207	93.9	126	16548	6.45	24.4	69.9	31.7	1.82	6.87	27.7	12.6

\*Nominal Ah capacity is based on an 8 hour rate to 1.75 volts per cell @ 77°F (25°C).  
 \*\*2DDm35-07 is only available with the round post.  
 †All values for lead, acid, & electrolyte are per cell. 2DDmP models contain 2 cells per module and DDmP models contain 1 cell per module.  
 ††Resistance values are for reference only and are not intended to represent an ohms value or bale line measurement.



## Constant Current continued

### Discharge Rates in Amperes to 1.90Vpc at 77°F (25°C)

Battery Type	Ah* Capacity	Minutes					Hours									
		1	15	30	40	50	1	2	3	4	5	6	8	10	12	24
DDm35-07	105	128	91	68	59	53	47	30	23	19	16	14	11	9.5	8.3	4.9
DDmP50-09	200	187	154	124	110	99	91	61	46	37	32	28	23	19	17	10
DDmP50-13	300	280	231	186	165	149	136	91	69	56	48	42	34	29	25	14
DDmP50-17	400	374	308	248	220	199	181	121	92	75	64	56	45	38	33	19
DDmP85-13	510	348	321	270	245	224	207	144	112	92	79	69	54	45	39	22
DDmP85-15	600	406	375	315	286	262	241	168	131	108	92	80	63	52	45	26
DDmP85-21	850	581	535	450	409	374	345	239	186	154	131	115	90	75	65	37
DDmP85-25	1020	697	643	540	490	449	413	287	224	184	157	137	108	90	77	44
DDmP85-27	1105	755	696	585	531	486	448	311	242	200	170	149	117	97	84	48
DDmP85-33	1360	930	857	720	654	598	551	383	298	246	210	183	144	120	103	58
DDmP100-21	1000	706	637	535	484	442	407	281	218	179	153	134	107	89	77	43
DDmP100-25	1200	846	764	642	581	531	489	338	261	215	184	161	128	107	92	52
DDmP100-27	1300	917	828	696	630	575	530	366	283	233	199	174	139	116	100	56
DDmP100-33	1600	1128	1019	856	775	708	652	450	348	287	245	215	171	142	123	69
DDmP125-25	1500	983	935	797	724	662	609	419	326	269	231	202	161	135	116	67
DDmP125-27	1625	1064	1013	863	784	717	660	454	353	292	250	219	174	146	126	72
DDmP125-33	2000	1310	1247	1062	965	882	812	558	435	359	308	270	215	179	155	89

### Discharge Rates in Amperes to 1.94Vpc at 77°F (25°C)

Battery Type	Ah* Capacity	Minutes					Hours									
		1	15	30	40	50	1	2	3	4	5	6	8	10	12	24
DDm35-07	105	94.2	73	57	49	44	40	26	20	16	14	12	9.9	8.4	7.4	4.4
DDmP50-09	200	142	127	103	93	84	77	52	40	33	28	25	20	17	15	9
DDmP50-13	300	212	190	155	139	126	116	78	60	49	42	37	30	26	22	13
DDmP50-17	400	283	254	207	185	168	154	104	80	66	56	50	40	34	30	17
DDmP85-13	510	266	263	224	204	189	175	124	98	81	69	60	48	40	35	20
DDmP85-15	600	311	307	261	238	220	204	145	114	94	81	70	56	47	40	23
DDmP85-21	850	444	438	373	340	315	291	207	162	135	115	100	79	67	58	33
DDmP85-25	1020	533	526	447	408	377	350	248	195	162	138	120	95	80	69	39
DDmP85-27	1105	577	570	485	442	409	379	269	211	175	150	130	103	86	75	43
DDmP85-33	1360	711	701	596	544	503	466	331	260	215	184	160	127	106	92	53
DDmP100-21	1000	545	527	450	410	379	351	246	191	158	135	118	94	79	68	38
DDmP100-25	1200	654	633	540	492	455	421	295	229	190	162	142	113	95	82	46
DDmP100-27	1300	709	686	585	533	493	456	319	249	205	176	153	122	103	89	50
DDmP100-33	1600	872	844	720	656	606	561	393	306	253	216	189	151	126	109	61
DDmP125-25	1500	757	756	654	598	553	511	360	282	234	201	176	141	119	103	60
DDmP125-27	1625	820	819	709	648	599	554	390	306	254	218	190	153	129	112	65
DDmP125-33	2000	1010	1008	872	797	737	682	480	376	312	268	234	188	158	138	80

\* 8hr Rate to 1.75Vpc at 77°F

## Constant Current

### Discharge Rates in Amperes to 1.75Vpc at 77°F (25°C)

Battery Type	Ah* Capacity	Minutes					Hours									
		1	15	30	40	50	1	2	3	4	5	6	8	10	12	24
DDm35-07	105	252	148	101	84	72	63	38	28	22	19	16	13	11	9.6	5.6
DDmP50-09	200	361	242	184	157	138	123	75	55	43	36	31	25	21	18	10
DDmP50-13	300	541	364	275	236	207	184	113	82	65	54	47	38	31	27	16
DDmP50-17	400	722	485	367	315	276	246	150	110	86	72	63	50	42	36	21
DDmP85-13	510	674	525	416	367	329	297	189	141	113	95	82	65	52	45	25
DDmP85-15	600	787	613	485	428	383	347	220	164	132	111	96	75	61	52	29
DDmP85-21	850	1124	875	693	612	547	495	315	234	188	158	137	108	87	74	41
DDmP85-25	1020	1348	1050	832	734	657	594	378	281	226	190	164	129	105	89	49
DDmP85-27	1105	1461	1138	901	795	712	644	409	304	245	206	177	140	114	97	54
DDmP85-33	1360	1797	1400	1109	978	876	792	504	375	302	253	218	172	140	119	66
DDmP100-21	1000	1306	1006	799	707	634	575	369	274	219	184	159	126	104	89	49
DDmP100-25	1200	1568	1207	959	848	761	690	442	329	263	221	191	151	125	107	59
DDmP100-27	1300	1697	1308	1039	919	824	747	479	357	285	239	207	164	135	116	64
DDmP100-33	1600	2090	1609	1279	1131	1014	920	590	439	351	294	254	202	166	142	78
DDmP125-25	1500	1937	1542	1238	1093	979	886	569	420	333	278	240	189	155	132	74
DDmP125-27	1625	2097	1671	1341	1184	1060	960	617	455	361	301	259	205	167	143	80
DDmP125-33	2000	2583	2056	1650	1457	1305	1182	759	560	444	370	319	252	206	176	98

### Discharge Rates in Amperes to 1.78Vpc at 77°F (25°C)

Battery Type	Ah* Capacity	Minutes					Hours									
		1	15	30	40	50	1	2	3	4	5	6	8	10	12	24
DDm35-07	105	227	139	96	81	70	62	37	28	22	19	16	13	11	9.5	5.6
DDmP50-09	200	325	227	174	151	133	119	74	55	43	36	31	25	21	18	10
DDmP50-13	300	488	340	261	226	200	179	112	82	65	54	47	38	31	27	16
DDmP50-17	400	651	454	348	302	266	238	149	110	86	72	63	50	42	36	21
DDmP85-13	510	608	486	390	346	311	283	184	138	111	94	81	64	52	45	25
DDmP85-15	600	710	567	455	403	363	330	214	161	130	109	95	75	61	52	29
DDmP85-21	850	1014	811	650	576	519	472	306	230	186	156	135	107	87	74	41
DDmP85-25	1020	1215	973	779	691	622	566	367	276	223	188	162	128	105	89	49
DDmP85-27	1105	1318	1054	844	749	674	613	398	299	241	203	176	139	113	97	54
DDmP85-33	1360	1621	1297	1039	922	830	755	490	368	297	250	217	171	140	119	66
DDmP100-21	1000	1186	937	752	667	602	549	359	268	215	181	156	124	102	88	49
DDmP100-25	1200	1424	1125	902	801	722	658	430	322	258	217	188	149	123	105	58
DDmP100-27	1300	1542	1219	977	868	782	713	466	349	279	235	203	161	133	114	63
DDmP100-33	1600	1899	1500	1203	1068	963	878	574	429	344	289	250	198	164	141	78
DDmP125-25	1500	1755	1430	1160	1029	926	843	550	412	333	278	240	189	155	132	74
DDmP125-27	1625	1900	1549	1257	1115	1004	913	596	447	361	301	259	205	167	143	80
DDmP125-33	2000	2340	1906	1547	1373	1235	1124	734	550	444	370	319	252	206	176	98

### Discharge Rates in Amperes to 1.80Vpc at 77°F (25°C)

Battery Type	Ah* Capacity	Minutes					Hours									
		1	15	30	40	50	1	2	3	4	5	6	8	10	12	24
DDm35-07	105	211	132	93	78	68	60	57	27	22	18	16	13	11	9.4	5.5
DDmP50-09	200	302	216	167	146	129	116	73	55	43	36	31	25	21	18	10
DDmP50-13	300	452	324	250	218	194	174	110	82	65	54	47	38	31	27	16
DDmP50-17	400	603	432	333	291	258	232	146	109	86	72	63	50	42	36	21
DDmP85-13	510	563	460	372	331	298	272	179	135	110	93	80	63	52	44	25
DDmP85-15	600	657	536	434	386	348	318	209	158	128	108	94	74	60	52	29
DDmP85-21	850	939	766	620	551	497	454	298	226	183	154	134	106	86	74	41
DDmP85-25	1020	1128	919	744	661	596	544	358	271	220	185	161	127	104	88	49
DDmP85-27	1105	1221	996	805	716	646	590	388	293	238	201	174	137	112	96	53
DDmP85-33	1360	1504	1226	991	881	795	726	477	361	293	247	214	169	138	118	66
DDmP100-21	1000	1107	891	719	639	578	528	350	263	212	178	154	122	101	87	48
DDmP100-25	1200	1328	1069	863	767	694	634	420	316	254	214	185	147	121	104	58
DDmP100-27	1300	1440	1158	935	831	751	687	455	342	275	231	200	159	131	113	63
DDmP100-33	1600	1770	1425	1150	1023	925	845	561	421	339	285	247	196	162	139	77
DDmP125-25	1500	1633	1352	1105	984	888	810	535	403	326	275	239	189	155	132	74
DDmP125-27	1625	1771	1465	1197	1066	962	878	579	437	353	298	259	205	167	143	80
DDmP125-33	2000	2177	1803	1474	1312	1184	1080	713	537	435	367	319	252	206	176	98

\* 8hr Rate to 1.75Vpc at 77°F

**Constant Current continued**

**Discharge Rates in Amperes to 1.83Vpc at 77°F (25°C)**

Battery Type	Ah* Capacity	Minutes					Hours									
		1	15	30	40	50	1	2	3	4	5	6	8	10	12	24
DDm35-07	105	186	121	86	73	64	57	35	26	21	18	16	13	11	9.2	5.4
DDmP50-09	200	266	199	155	136	122	110	71	53	42	35	31	25	21	18	10
DDmP50-13	300	400	298	233	204	182	165	106	79	63	53	46	37	31	27	16
DDmP50-17	400	533	397	310	272	243	220	141	105	84	71	62	50	42	36	21
DDmP85-13	510	498	419	344	307	278	254	171	130	106	90	78	62	51	43	24
DDmP85-15	600	581	488	401	358	324	297	199	152	124	105	91	72	59	51	28
DDmP85-21	850	829	698	572	511	463	424	284	216	177	150	130	103	84	72	40
DDmP85-25	1020	996	837	687	614	555	508	341	260	212	180	156	124	101	87	48
DDmP85-27	1105	1078	907	744	665	602	551	370	281	230	195	169	134	110	94	52
DDmP85-33	1360	1328	1116	916	818	741	678	455	346	283	240	208	165	135	115	64
DDmP100-21	1000	988	818	667	596	540	495	335	254	205	173	150	119	99	85	47
DDmP100-25	1200	1185	982	801	715	648	594	401	305	246	208	180	143	118	102	56
DDmP100-27	1300	1285	1064	867	775	702	643	435	330	267	225	195	155	128	110	61
DDmP100-33	1600	1580	1309	1068	954	864	792	535	406	328	277	240	191	158	136	75
DDmP125-25	1500	1444	1232	1019	912	826	756	507	386	314	266	232	185	152	131	74
DDmP125-27	1625	1564	1335	1104	988	895	819	549	418	340	288	251	200	165	141	80
DDmP125-33	2000	1926	1643	1359	1216	1102	1008	676	514	419	355	309	246	203	174	98

**Discharge Rates in Amperes to 1.85Vpc at 77°F (25°C)**

Battery Type	Ah* Capacity	Minutes					Hours									
		1	15	30	40	50	1	2	3	4	5	6	8	10	12	24
DDm35-07	105	170	113	82	70	61	55	34	26	21	17	15	12	10	9.0	5.3
DDmP50-09	200	244	186	147	129	116	105	68	51	41	35	30	24	21	18	10
DDmP50-13	300	365	279	220	194	174	158	103	77	62	52	45	37	31	27	15
DDmP50-17	400	487	373	293	258	232	210	137	103	82	69	61	49	41	36	21
DDmP85-13	510	455	391	324	290	263	241	164	126	103	87	76	60	50	42	24
DDmP85-15	600	531	456	378	339	307	282	191	147	120	102	89	70	58	50	28
DDmP85-21	850	758	652	539	484	439	402	273	209	171	145	127	100	82	71	40
DDmP85-25	1020	909	782	647	581	527	483	328	251	205	174	152	120	99	85	48
DDmP85-27	1105	986	847	701	629	571	523	355	272	222	189	165	130	107	92	52
DDmP85-33	1360	1212	1043	863	774	702	644	437	335	274	232	203	160	132	113	63
DDmP100-21	1000	907	768	631	566	513	471	321	246	200	169	147	117	97	83	46
DDmP100-25	1200	1090	922	758	679	616	565	386	295	240	203	176	140	116	100	55
DDmP100-27	1300	1180	999	821	735	667	612	418	320	260	220	191	152	126	108	60
DDmP100-33	1600	1453	1229	1010	905	821	754	514	393	320	270	235	187	155	133	74
DDmP125-25	1500	1316	1150	959	862	782	717	485	372	304	258	225	179	148	127	72
DDmP125-27	1625	1427	1246	1039	933	848	777	525	403	329	280	244	194	161	138	78
DDmP125-33	2000	1755	1533	1279	1149	1043	956	646	495	405	344	300	239	198	170	96

**Discharge Rates in Amperes to 1.88Vpc at 77°F (25°C)**

Battery Type	Ah* Capacity	Minutes					Hours									
		1	15	30	40	50	1	2	3	4	5	6	8	10	12	24
DDm35-07	105	144	101	74	64	56	50	32	24	19	17	15	12	9.9	8.6	5.1
DDmP50-09	200	209	167	134	118	106	97	64	48	39	33	29	23	20	17	10
DDmP50-13	300	314	251	200	177	159	145	96	73	59	50	44	35	30	26	15
DDmP50-17	400	418	334	267	236	212	193	128	97	78	66	58	47	40	34	20
DDmP85-13	510	390	350	292	264	241	221	152	118	97	83	72	57	47	40	23
DDmP85-15	600	455	408	341	308	281	258	178	138	113	96	84	66	55	47	27
DDmP85-21	850	651	583	487	440	401	369	254	197	162	138	120	95	78	67	38
DDmP85-25	1020	780	699	584	528	481	442	305	236	194	165	144	113	94	81	46
DDmP85-27	1105	846	757	633	572	522	479	330	256	210	179	156	123	102	87	49
DDmP85-33	1360	1040	932	779	704	642	590	406	315	258	220	192	151	125	108	61
DDmP100-21	1000	786	690	575	518	472	434	298	230	189	161	140	111	93	80	44
DDmP100-25	1200	944	829	690	622	566	520	358	276	226	193	168	134	111	96	53
DDmP100-27	1300	1022	898	748	674	613	564	388	299	245	209	182	145	120	104	58
DDmP100-33	1600	1258	1105	920	829	755	694	477	368	302	257	224	178	148	128	71
DDmP125-25	1500	1119	1022	864	781	712	654	447	346	285	243	213	170	141	122	69
DDmP125-27	1625	1212	1107	936	846	772	709	484	375	308	263	231	184	153	132	75
DDmP125-33	2000	1493	1363	1152	1041	950	872	595	461	380	324	284	226	188	162	92

\* 8hr Rate to 1.75Vpc at 77°F



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