



ES Performance Specifications

Features and Benefits

- Durable 20 year design life @ 77°F (25°C) ambient temperature
- Low Calcium alloy grids designed for lower water loss, lower maintenance costs
- Individual single cell construction
- Standard cover made of flame retardant UL94 V0 Poly Carbonate (PC)
- Standard container made of non-flame retardant Styrene Acrylonitril (SAN)
- Container made of flame retardant UL94 V0 PC
- Capacity ranges:
ES 1.215 SG: 0.378 to 3.092 kW per cell to 1.67 vpc @ 15 minute rate
ES 1.250 SG: 0.417 to 3.463 kW per cell to 1.67 vpc @ 15 minute rate
- 100% initial battery capacity

Construction

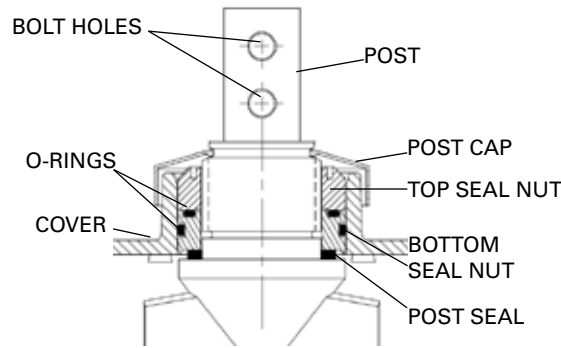
- Specific Gravity (SG): 1.215 SG Standard, 1.250 SG optional
- Plate thickness: Positive 0.19" (4.85mm), Negative 0.13" (3.55mm)
- Container: Standard SAN jar with LOI 18%, optional PC with LOI >28%
- PC cover
- Separator: microporous plastic
- Electrolyte over plates: 2.1" (53.3mm)
- Vent Type: Flame arrestor, fused alumina type
- Post Type: ES-5 to ES-21 One Positive and negative post per cell; ES-23 to ES-37 Two positive and negative posts per cell
- Post Seal: Slide-Lock™

Installation and Operation

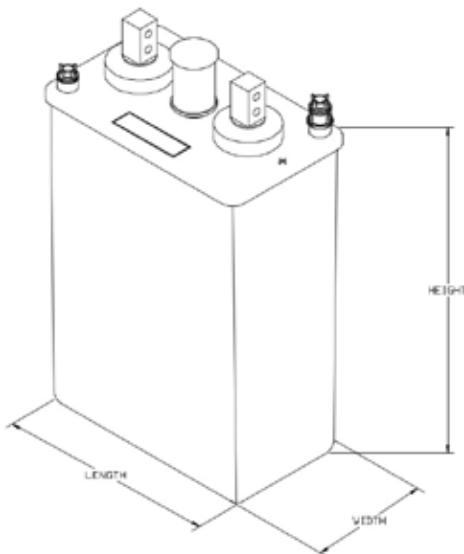
- Normal operating temperature range: 68°F (20°C) to 86°F (30°C); Allowable operating temperature range: 32°F (0°C) to 104°F (40°C)
- Float charging voltage:
1.215 SG Range- 2.17 to 2.26 vpc, recommended 2.21vpc @ 77°F (25°C);
1.250 (B) SG- 2.25 to 2.30 vpc, recommended 2.26vpc @ 77°F (25°C)
- Bolt Connections: stainless steel standard 1/4-20 with 7/16 hex head wrench required
- Torque specifications:
70 to 75 in-lbs (8.0 to 8.5 Nm) ± 5%;
Retorque: 60 to 65 in-lbs (7.0 to 7.5 Nm) ± 5%
- Withdrawal tube: one per cell

Standards

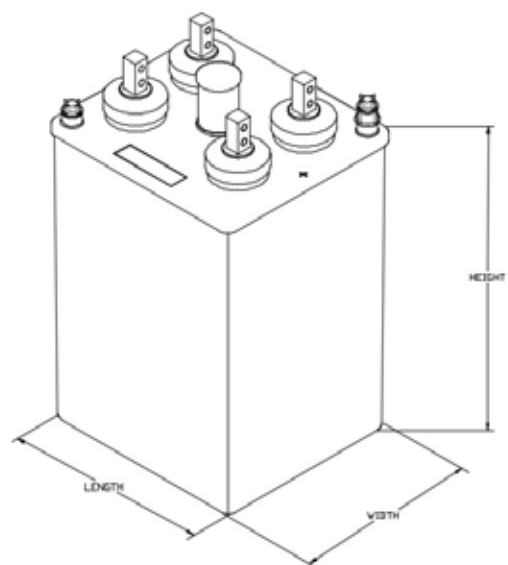
- Manufactured to EnerSys® standards in ISO 9001:2008 registered production facilities worldwide



Exclusive Slide-Lock Post Seal™



ES-5 to ES-21



ES-23 to ES-37

General Specifications 1.250 Specific Gravity

Battery Type	Nominal Capacity ¹	Nominal Dimensions						Weights - Volumes								Internal Resistance	Short Circuit Current
		Length**		Width		Height		Unpacked		Packed		Electrolyte Only /1.250SG					
		in	mm	in	mm	in	mm	lbs	kg	lbs	kg	lbs	kg	gal	L		
ES-5B	155	5.10	130	11.06	274	18.7	475	58.4	26.5	57.7	26.2	25.0	11.4	2.40	9.08	650	3133
ES-7B	220	5.10	130	11.06	274	18.7	475	64.4	29.2	63.7	28.9	23.5	10.6	2.25	8.52	469	4335
ES-9B	285	5.10	130	11.06	274	18.7	475	71.2	32.3	70.6	32.1	21.9	9.93	2.10	7.95	368	5525
ES-11B	350	5.10	130	11.06	274	18.7	475	77.2	35.0	76.6	34.8	20.3	9.22	1.95	7.38	303	6705
ES-13B	410	5.10	130	11.06	274	18.7	475	84.1	38.2	83.6	37.9	19.3	8.75	1.85	7.00	258	7878
ES-15B	515	6.60	168	11.06	274	18.7	475	103	46.6	101.9	46.2	27.1	12.3	2.60	9.8	225	9045
ES-17B	580	6.60	168	11.06	274	18.7	475	110	49.7	108.8	49.4	26.1	11.8	2.50	9.5	199	10206
ES-19B	640	6.60	168	11.06	274	18.7	475	117	52.8	115.8	52.6	25.0	11.4	2.40	9.1	179	11362
ES-21B	715	6.60	168	11.06	274	18.7	475	124	56.4	123.8	56.2	24.0	10.9	2.30	8.7	163	12514
ES-23B	770	8.10	206	11.06	274	18.7	475	149	67.5	148.0	67.2	32.3	14.7	3.10	11.7	149	13662
ES-25B	815	8.10	206	11.06	274	18.7	475	155	70.2	154.0	70.0	31.3	14.2	3.00	11.4	137	14807
ES-27B	870	8.10	206	11.06	274	18.7	475	162	73.4	161.0	73.0	30.2	13.7	2.90	11.0	128	15949
ES-29B	965	10.10	257	11.06	274	18.7	475	183	83.2	182.3	82.8	40.7	18.4	3.90	14.8	119	17087
ES-31B	1005	10.10	257	11.06	274	18.7	475	190	86.4	189.3	86.0	39.6	18.0	3.80	14.4	112	18223
ES-33B	1045	10.10	257	11.06	274	18.7	475	198	90.0	197.3	89.6	38.6	17.5	3.70	14.0	105	19357
ES-35B	1085	10.10	257	11.06	274	18.7	475	204	92.7	203.3	92.3	37.5	17.0	3.60	13.6	99	20487
ES-37B	1135	10.10	257	11.06	274	18.7	475	211	95.8	210.2	95.5	36.5	16.6	3.50	13.2	94	21616

General Specifications 1.215 Specific Gravity

Battery Type	Nominal Capacity ¹	Nominal Dimensions						Weights - Volumes								Internal Resistance	Short Circuit Current
		Length**		Width		Height		Unpacked		Packed		Electrolyte Only /1.215SG					
		in	mm	in	mm	in	mm	lbs	kg	lbs	kg	lbs	kg	gal	L		
ES-5	140	5.10	130	11.06	274	18.7	475	55	24.9	57	25.9	24.4	11.1	2.40	9.08	650	3079
ES-7	200	5.10	130	11.06	274	18.7	475	61	27.7	63	28.6	22.9	10.4	2.25	8.52	469	4260
ES-9	260	5.10	130	11.06	274	18.7	475	68	30.8	70	31.8	21.3	9.68	2.10	7.95	368	5430
ES-11	315	5.10	130	11.06	274	18.7	475	75	34.0	76	34.5	19.8	8.99	1.95	7.38	303	6590
ES-13	375	5.10	130	11.06	274	18.7	475	82	37.2	83	37.6	18.8	8.53	1.85	7.00	258	7743
ES-15	470	6.60	168	11.06	274	18.7	475	98	44.4	101	45.8	26.4	12.0	2.60	9.84	225	8889
ES-17	525	6.60	168	11.06	274	18.7	475	105	47.6	108	49.0	25.4	11.5	2.50	9.46	199	10030
ES-19	580	6.60	168	11.06	274	18.7	475	112	50.8	115	52.2	24.4	11.1	2.40	9.08	179	11167
ES-21	650	6.60	168	11.06	274	18.7	475	119	54.0	123	55.8	23.4	10.6	2.30	8.71	163	12299
ES-23	700	8.10	206	11.06	274	18.7	475	143	64.9	147	66.7	31.5	14.3	3.10	11.7	149	13428
ES-25	740	8.10	206	11.06	274	18.7	475	149	67.6	153	69.5	30.5	13.8	3.00	11.4	137	14553
ES-27	790	8.10	206	11.06	274	18.7	475	155	70.3	160	72.6	29.5	13.4	2.90	11.0	128	15675
ES-29	880	10.10	257	11.06	274	18.7	475	176	79.8	181	82.3	39.6	18.0	3.90	14.8	119	16794
ES-31	915	10.10	257	11.06	274	18.7	475	183	83.0	188	85.4	38.6	17.5	3.80	14.4	112	17910
ES-33	950	10.10	257	11.06	274	18.7	475	190	86.2	196	89.0	37.6	17.1	3.70	14.0	105	19024
ES-35	985	10.10	257	11.06	274	18.7	475	196	88.9	202	91.7	36.6	16.6	3.60	13.6	99	20135
ES-37	1030	10.10	257	11.06	274	18.7	475	203	92.1	209	94.9	35.6	16.1	3.50	13.2	94	21244

*Nominal Amp hour capacity at the 8 hr rate for 1.215 SG to 1.75 Vpc

** 0.25" must be added between cells for spacing purposes when calculating total battery length

¹ Nominal Amp hour capacity at the 8 hr rate for 1.250 SG

Constant Power Discharge Performance Data

1.250 Specific Gravity Discharge Rates (kW per cell*) to 1.75Vpc at 77°F (25°C)**

Battery Type	Minutes																		
	5	6	7	8	9	10	11	12	13	14	15	20	25	30	45	60	90	120	180
ES-5B	0.552	0.527	0.506	0.486	0.468	0.452	0.437	0.423	0.410	0.398	0.387	0.340	0.304	0.275	0.218	0.183	0.142	0.118	0.089
ES-7B	0.810	0.774	0.743	0.715	0.690	0.666	0.644	0.623	0.604	0.587	0.570	0.501	0.448	0.405	0.320	0.269	0.208	0.172	0.130
ES-9B	1.044	1.001	0.962	0.927	0.894	0.865	0.836	0.810	0.785	0.762	0.740	0.650	0.581	0.526	0.414	0.347	0.266	0.220	0.166
ES-11B	1.270	1.220	1.174	1.132	1.093	1.056	1.022	0.989	0.959	0.931	0.904	0.794	0.709	0.641	0.504	0.421	0.322	0.265	0.198
ES-13B	1.484	1.428	1.376	1.328	1.284	1.239	1.198	1.160	1.124	1.091	1.059	0.931	0.830	0.751	0.589	0.490	0.372	0.307	0.228
ES-15B	1.709	1.649	1.593	1.542	1.491	1.447	1.404	1.364	1.327	1.292	1.258	1.117	1.004	0.915	0.726	0.610	0.468	0.386	0.287
ES-17B	1.944	1.877	1.814	1.755	1.698	1.647	1.598	1.552	1.509	1.468	1.430	1.269	1.142	1.040	0.825	0.690	0.527	0.432	0.319
ES-19B	2.179	2.105	2.037	1.969	1.905	1.846	1.792	1.740	1.691	1.645	1.603	1.422	1.279	1.166	0.924	0.771	0.586	0.479	0.352
ES-21B	2.415	2.334	2.259	2.183	2.112	2.045	1.986	1.927	1.873	1.822	1.775	1.576	1.417	1.291	1.023	0.852	0.645	0.525	0.384
ES-23B	2.766	2.662	2.563	2.478	2.396	2.319	2.246	2.180	2.117	2.059	2.002	1.768	1.585	1.439	1.134	0.948	0.723	0.591	0.434
ES-25B	2.988	2.879	2.779	2.688	2.598	2.512	2.432	2.357	2.287	2.222	2.162	1.909	1.710	1.554	1.225	1.021	0.775	0.633	0.464
ES-27B	3.216	3.102	2.998	2.900	2.802	2.707	2.620	2.537	2.460	2.390	2.325	2.052	1.838	1.671	1.318	1.095	0.829	0.676	0.495
ES-29B	3.436	3.305	3.186	3.081	2.975	2.879	2.790	2.707	2.627	2.553	2.484	2.190	1.960	1.778	1.395	1.164	0.887	0.725	0.533
ES-31B	3.636	3.501	3.377	3.268	3.156	3.054	2.960	2.871	2.788	2.708	2.635	2.326	2.082	1.890	1.485	1.236	0.938	0.765	0.561
ES-33B	3.834	3.697	3.569	3.450	3.333	3.225	3.126	3.032	2.944	2.861	2.784	2.460	2.203	2.001	1.573	1.307	0.988	0.804	0.587
ES-35B	4.043	3.901	3.770	3.641	3.517	3.404	3.299	3.201	3.107	3.021	2.940	2.599	2.328	2.115	1.664	1.381	1.041	0.845	0.615
ES-37B	4.246	4.099	3.965	3.823	3.695	3.575	3.466	3.363	3.263	3.174	3.091	2.733	2.450	2.226	1.752	1.452	1.091	0.884	0.642

1.250 Specific Gravity Discharge Rates (kW per cell*) to 1.70Vpc at 77°F (25°C)**

Battery Type	Minutes																		
	5	6	7	8	9	10	11	12	13	14	15	20	25	30	45	60	90	120	180
ES-5B	0.608	0.578	0.550	0.527	0.505	0.486	0.468	0.452	0.436	0.422	0.409	0.354	0.315	0.283	0.221	0.184	0.142	0.118	0.089
ES-7B	0.891	0.848	0.810	0.776	0.746	0.718	0.692	0.668	0.645	0.624	0.605	0.524	0.465	0.418	0.326	0.271	0.208	0.172	0.130
ES-9B	1.150	1.097	1.051	1.009	0.970	0.935	0.902	0.871	0.842	0.815	0.790	0.683	0.606	0.544	0.423	0.350	0.267	0.220	0.166
ES-11B	1.399	1.339	1.284	1.234	1.187	1.145	1.106	1.068	1.033	1.000	0.969	0.838	0.742	0.666	0.516	0.426	0.323	0.265	0.198
ES-13B	1.640	1.570	1.507	1.450	1.396	1.347	1.301	1.258	1.216	1.177	1.140	0.986	0.872	0.782	0.605	0.498	0.374	0.307	0.228
ES-15B	1.891	1.815	1.746	1.683	1.625	1.572	1.522	1.475	1.431	1.390	1.350	1.185	1.058	0.955	0.749	0.623	0.475	0.388	0.287
ES-17B	2.144	2.061	1.984	1.914	1.850	1.790	1.734	1.681	1.631	1.583	1.538	1.349	1.205	1.088	0.852	0.707	0.535	0.435	0.319
ES-19B	2.401	2.308	2.223	2.147	2.075	2.010	1.948	1.887	1.830	1.776	1.725	1.514	1.352	1.221	0.956	0.791	0.595	0.482	0.352
ES-21B	2.658	2.554	2.462	2.380	2.301	2.229	2.162	2.092	2.029	1.969	1.912	1.678	1.498	1.353	1.059	0.875	0.655	0.529	0.384
ES-23B	3.028	2.902	2.787	2.683	2.590	2.502	2.422	2.347	2.274	2.206	2.141	1.872	1.666	1.501	1.170	0.969	0.729	0.592	0.434
ES-25B	3.272	3.137	3.018	2.909	2.811	2.720	2.633	2.551	2.469	2.393	2.322	2.026	1.802	1.623	1.265	1.045	0.783	0.635	0.464
ES-27B	3.521	3.378	3.254	3.139	3.034	2.938	2.846	2.754	2.666	2.581	2.503	2.181	1.940	1.746	1.362	1.123	0.839	0.679	0.495
ES-29B	3.790	3.630	3.484	3.354	3.234	3.125	3.022	2.926	2.834	2.748	2.668	2.327	2.065	1.857	1.441	1.191	0.895	0.727	0.533
ES-31B	4.014	3.844	3.695	3.560	3.436	3.322	3.215	3.113	3.014	2.923	2.837	2.476	2.199	1.978	1.536	1.267	0.948	0.768	0.561
ES-33B	4.228	4.058	3.905	3.764	3.636	3.517	3.407	3.296	3.192	3.094	3.003	2.623	2.332	2.098	1.629	1.342	1.000	0.807	0.587
ES-35B	4.457	4.283	4.123	3.976	3.843	3.719	3.602	3.484	3.375	3.271	3.175	2.775	2.468	2.221	1.725	1.419	1.054	0.849	0.615
ES-37B	4.681	4.501	4.335	4.183	4.047	3.917	3.791	3.667	3.552	3.443	3.341	2.922	2.600	2.341	1.819	1.494	1.107	0.888	0.642

*kW values listed represent 100% of the initial capacity.

** At 77°F (25°C) includes intercell connector drop.

Constant Power Discharge Performance Data Continued

1.250 Specific Gravity Discharge Rates (kW per cell*) to 1.67Vpc at 77°F (25°C)**

Battery Type	Minutes																		
	5	6	7	8	9	10	11	12	13	14	15	20	25	30	45	60	90	120	180
ES-5B	0.636	0.602	0.572	0.545	0.521	0.500	0.481	0.464	0.447	0.432	0.417	0.360	0.318	0.285	0.221	0.184	0.142	0.118	0.089
ES-7B	0.933	0.885	0.843	0.805	0.771	0.741	0.713	0.687	0.663	0.640	0.619	0.533	0.470	0.421	0.326	0.271	0.208	0.172	0.130
ES-9B	1.203	1.146	1.095	1.049	1.006	0.967	0.931	0.898	0.867	0.838	0.810	0.696	0.614	0.549	0.423	0.350	0.267	0.220	0.166
ES-11B	1.466	1.400	1.340	1.284	1.234	1.187	1.144	1.104	1.066	1.031	0.997	0.856	0.754	0.674	0.518	0.426	0.323	0.265	0.198
ES-13B	1.718	1.643	1.574	1.511	1.453	1.399	1.349	1.302	1.258	1.216	1.176	1.008	0.888	0.793	0.608	0.498	0.374	0.307	0.228
ES-15B	1.979	1.895	1.821	1.751	1.687	1.628	1.575	1.525	1.478	1.432	1.390	1.212	1.078	0.970	0.756	0.626	0.475	0.388	0.287
ES-17B	2.242	2.151	2.067	1.990	1.920	1.855	1.795	1.739	1.686	1.634	1.586	1.382	1.229	1.106	0.861	0.710	0.535	0.435	0.319
ES-19B	2.508	2.409	2.315	2.231	2.154	2.082	2.016	1.953	1.894	1.835	1.781	1.551	1.380	1.242	0.966	0.795	0.595	0.482	0.352
ES-21B	2.774	2.667	2.564	2.472	2.388	2.310	2.237	2.168	2.102	2.036	1.976	1.721	1.531	1.378	1.071	0.879	0.655	0.529	0.384
ES-23B	3.153	3.017	2.893	2.783	2.680	2.586	2.500	2.419	2.345	2.272	2.203	1.914	1.698	1.525	1.181	0.970	0.729	0.592	0.434
ES-25B	3.402	3.264	3.136	3.017	2.909	2.810	2.718	2.632	2.551	2.471	2.393	2.074	1.837	1.650	1.277	1.047	0.783	0.635	0.464
ES-27B	3.660	3.516	3.380	3.255	3.140	3.036	2.938	2.845	2.759	2.670	2.585	2.236	1.980	1.777	1.375	1.125	0.839	0.679	0.495
ES-29B	3.958	3.786	3.632	3.488	3.357	3.238	3.129	3.025	2.929	2.838	2.750	2.380	2.104	1.886	1.454	1.192	0.895	0.727	0.533
ES-31B	4.190	4.014	3.854	3.705	3.569	3.444	3.329	3.222	3.121	3.023	2.929	2.537	2.244	2.012	1.551	1.269	0.948	0.768	0.561
ES-33B	4.422	4.242	4.073	3.920	3.778	3.649	3.528	3.416	3.309	3.204	3.106	2.692	2.383	2.136	1.647	1.345	1.000	0.807	0.587
ES-35B	4.667	4.478	4.301	4.142	3.994	3.860	3.733	3.615	3.501	3.391	3.286	2.851	2.524	2.263	1.744	1.423	1.054	0.849	0.615
ES-37B	4.906	4.707	4.524	4.359	4.205	4.066	3.934	3.811	3.689	3.573	3.463	3.005	2.662	2.388	1.841	1.499	1.107	0.888	0.642

1.250 Specific Gravity Discharge Rates (kW per cell*) to 1.65Vpc at 77°F (25°C)**

Battery Type	Minutes																		
	5	6	7	8	9	10	11	12	13	14	15	20	25	30	45	60	90	120	180
ES-5B	0.652	0.616	0.584	0.556	0.530	0.508	0.488	0.470	0.452	0.436	0.422	0.362	0.318	0.285	0.221	0.184	0.142	0.118	0.089
ES-7B	0.957	0.907	0.862	0.822	0.785	0.753	0.724	0.697	0.671	0.648	0.626	0.537	0.472	0.422	0.326	0.271	0.208	0.172	0.130
ES-9B	1.237	1.176	1.121	1.071	1.026	0.985	0.947	0.912	0.880	0.850	0.821	0.703	0.617	0.551	0.423	0.350	0.267	0.220	0.166
ES-11B	1.507	1.436	1.372	1.314	1.260	1.211	1.166	1.123	1.084	1.047	1.012	0.865	0.759	0.677	0.518	0.426	0.323	0.265	0.198
ES-13B	1.765	1.686	1.615	1.547	1.486	1.428	1.376	1.326	1.280	1.237	1.196	1.020	0.895	0.798	0.608	0.498	0.374	0.307	0.228
ES-15B	2.031	1.942	1.862	1.788	1.722	1.661	1.604	1.551	1.501	1.454	1.411	1.226	1.087	0.976	0.758	0.626	0.475	0.388	0.287
ES-17B	2.298	2.202	2.115	2.034	1.960	1.892	1.828	1.769	1.714	1.661	1.611	1.398	1.240	1.114	0.863	0.710	0.535	0.435	0.319
ES-19B	2.569	2.465	2.370	2.280	2.198	2.124	2.054	1.988	1.927	1.868	1.811	1.571	1.393	1.252	0.969	0.795	0.595	0.482	0.352
ES-21B	2.841	2.730	2.625	2.527	2.437	2.356	2.279	2.207	2.139	2.075	2.011	1.743	1.546	1.389	1.074	0.879	0.655	0.529	0.384
ES-23B	3.225	3.082	2.954	2.837	2.730	2.633	2.542	2.458	2.380	2.306	2.235	1.936	1.712	1.535	1.181	0.970	0.729	0.592	0.434
ES-25B	3.481	3.333	3.201	3.079	2.965	2.861	2.765	2.675	2.591	2.511	2.432	2.099	1.854	1.662	1.278	1.047	0.783	0.635	0.464
ES-27B	3.743	3.590	3.452	3.323	3.201	3.091	2.989	2.893	2.802	2.717	2.629	2.264	1.999	1.791	1.377	1.125	0.839	0.679	0.495
ES-29B	4.060	3.876	3.714	3.564	3.426	3.302	3.187	3.079	2.978	2.883	2.792	2.407	2.123	1.899	1.454	1.192	0.895	0.727	0.533
ES-31B	4.300	4.111	3.944	3.788	3.644	3.513	3.393	3.281	3.175	3.075	2.977	2.569	2.266	2.028	1.552	1.269	0.948	0.768	0.561
ES-33B	4.536	4.344	4.170	4.009	3.860	3.723	3.598	3.480	3.370	3.264	3.161	2.728	2.408	2.155	1.649	1.345	1.000	0.807	0.587
ES-35B	4.786	4.587	4.406	4.238	4.082	3.939	3.808	3.685	3.569	3.456	3.347	2.891	2.551	2.284	1.747	1.423	1.054	0.849	0.615
ES-37B	5.029	4.826	4.634	4.461	4.300	4.151	4.014	3.886	3.764	3.644	3.529	3.051	2.693	2.411	1.845	1.499	1.107	0.888	0.642

*kW values listed represent 100% of the initial capacity.

** At 77°F (25°C) includes intercell connector drop.

Constant Power Discharge Performance Data Continued

1.250 Specific Gravity Discharge Rates (kW per cell*) to 1.60Vpc at 77°F (25°C)**

Battery Type	Minutes																		
	5	6	7	8	9	10	11	12	13	14	15	20	25	30	45	60	90	120	180
ES-5B	0.684	0.644	0.608	0.576	0.547	0.521	0.499	0.478	0.460	0.443	0.427	0.363	0.318	0.285	0.221	0.184	0.142	0.118	0.089
ES-7B	1.009	0.951	0.900	0.854	0.813	0.775	0.742	0.712	0.685	0.659	0.636	0.540	0.472	0.422	0.326	0.271	0.208	0.172	0.130
ES-9B	1.308	1.237	1.174	1.117	1.066	1.018	0.976	0.938	0.902	0.868	0.838	0.710	0.619	0.551	0.423	0.350	0.267	0.220	0.166
ES-11B	1.596	1.515	1.441	1.374	1.312	1.257	1.205	1.158	1.114	1.073	1.035	0.878	0.762	0.677	0.518	0.426	0.323	0.265	0.198
ES-13B	1.872	1.780	1.698	1.622	1.552	1.487	1.428	1.372	1.321	1.272	1.228	1.039	0.902	0.799	0.608	0.498	0.374	0.307	0.228
ES-15B	2.138	2.036	1.945	1.863	1.787	1.718	1.655	1.597	1.543	1.493	1.445	1.246	1.098	0.983	0.758	0.626	0.475	0.388	0.287
ES-17B	2.417	2.307	2.209	2.119	2.036	1.960	1.890	1.825	1.764	1.707	1.654	1.425	1.255	1.123	0.863	0.710	0.535	0.435	0.319
ES-19B	2.700	2.581	2.474	2.376	2.287	2.202	2.124	2.052	1.985	1.921	1.861	1.603	1.412	1.263	0.969	0.795	0.595	0.482	0.352
ES-21B	2.983	2.855	2.740	2.634	2.536	2.444	2.359	2.280	2.205	2.135	2.069	1.782	1.569	1.402	1.074	0.879	0.655	0.529	0.384
ES-23B	3.377	3.215	3.073	2.943	2.825	2.718	2.619	2.529	2.443	2.364	2.290	1.970	1.731	1.543	1.181	0.970	0.729	0.592	0.434
ES-25B	3.645	3.478	3.329	3.195	3.070	2.956	2.851	2.753	2.661	2.576	2.495	2.141	1.878	1.673	1.278	1.047	0.783	0.635	0.464
ES-27B	3.920	3.746	3.590	3.449	3.318	3.196	3.084	2.979	2.880	2.788	2.701	2.312	2.026	1.804	1.377	1.125	0.839	0.679	0.495
ES-29B	4.273	4.065	3.879	3.714	3.562	3.421	3.292	3.172	3.061	2.958	2.861	2.451	2.145	1.908	1.454	1.192	0.895	0.727	0.533
ES-31B	4.526	4.314	4.123	3.952	3.796	3.649	3.514	3.388	3.272	3.162	3.060	2.621	2.295	2.040	1.552	1.269	0.948	0.768	0.561
ES-33B	4.777	4.560	4.364	4.188	4.025	3.873	3.732	3.602	3.479	3.366	3.258	2.790	2.443	2.172	1.649	1.345	1.000	0.807	0.587
ES-35B	5.042	4.817	4.615	4.432	4.260	4.101	3.953	3.817	3.690	3.569	3.456	2.960	2.592	2.305	1.747	1.423	1.054	0.849	0.615
ES-37B	5.297	5.066	4.861	4.670	4.491	4.324	4.171	4.030	3.897	3.771	3.653	3.128	2.740	2.437	1.845	1.499	1.107	0.888	0.642

Constant Power Discharge Performance Data

1.215 Specific Gravity Discharge Rates (kW per cell*) to 1.75Vpc at 77°F (25°C)**

Battery Type	Minutes																		
	5	6	7	8	9	10	11	12	13	14	15	20	25	30	45	60	90	120	180
ES-5	0.496	0.474	0.456	0.438	0.423	0.408	0.394	0.381	0.369	0.358	0.348	0.305	0.273	0.247	0.196	0.165	0.128	0.106	0.080
ES-7	0.721	0.690	0.663	0.638	0.615	0.594	0.574	0.556	0.538	0.522	0.507	0.444	0.397	0.360	0.286	0.240	0.185	0.154	0.116
ES-9	0.926	0.887	0.852	0.820	0.792	0.765	0.739	0.715	0.693	0.672	0.652	0.572	0.511	0.463	0.367	0.307	0.237	0.197	0.148
ES-11	1.133	1.088	1.046	1.008	0.973	0.940	0.908	0.879	0.851	0.826	0.801	0.702	0.626	0.567	0.446	0.373	0.286	0.237	0.177
ES-13	1.328	1.276	1.229	1.184	1.144	1.104	1.068	1.033	1.001	0.970	0.942	0.825	0.734	0.663	0.518	0.431	0.328	0.270	0.201
ES-15	1.519	1.468	1.419	1.375	1.330	1.290	1.251	1.215	1.181	1.150	1.121	0.995	0.896	0.818	0.652	0.546	0.419	0.345	0.256
ES-17	1.727	1.668	1.613	1.561	1.510	1.464	1.420	1.378	1.339	1.304	1.270	1.126	1.013	0.924	0.734	0.613	0.467	0.383	0.283
ES-19	1.936	1.869	1.806	1.748	1.690	1.638	1.589	1.542	1.498	1.458	1.420	1.258	1.130	1.030	0.816	0.680	0.517	0.422	0.310
ES-21	2.144	2.069	2.000	1.935	1.870	1.812	1.758	1.705	1.656	1.611	1.569	1.389	1.247	1.135	0.898	0.748	0.566	0.461	0.337
ES-23	2.464	2.373	2.290	2.217	2.142	2.072	2.006	1.945	1.887	1.834	1.785	1.578	1.415	1.288	1.019	0.850	0.647	0.529	0.389
ES-25	2.668	2.570	2.479	2.399	2.317	2.240	2.168	2.100	2.037	1.978	1.924	1.697	1.519	1.382	1.090	0.908	0.689	0.562	0.413
ES-27	2.870	2.763	2.665	2.577	2.490	2.405	2.326	2.250	2.182	2.119	2.059	1.813	1.620	1.471	1.158	0.962	0.728	0.593	0.435
ES-29	3.058	2.947	2.845	2.753	2.659	2.571	2.490	2.416	2.343	2.275	2.214	1.954	1.749	1.591	1.254	1.044	0.793	0.649	0.478
ES-31	3.233	3.117	3.009	2.911	2.811	2.719	2.634	2.554	2.479	2.407	2.342	2.068	1.851	1.682	1.325	1.101	0.834	0.680	0.499
ES-33	3.403	3.282	3.170	3.064	2.959	2.863	2.774	2.690	2.611	2.536	2.468	2.179	1.950	1.771	1.394	1.157	0.873	0.711	0.519
ES-35	3.585	3.457	3.342	3.227	3.117	3.017	2.923	2.834	2.750	2.673	2.602	2.297	2.054	1.866	1.467	1.217	0.917	0.744	0.543
ES-37	3.758	3.625	3.506	3.381	3.267	3.162	3.065	2.972	2.883	2.804	2.729	2.409	2.155	1.956	1.536	1.274	0.957	0.775	0.563

Constant Power Discharge Performance Data Continued

1.215 Specific Gravity Discharge Rates (kW per cell*) to 1.70Vpc at 77°F (25°C)**

Battery Type	Minutes																		
	5	6	7	8	9	10	11	12	13	14	15	20	25	30	45	60	90	120	180
ES-5	0.552	0.525	0.500	0.478	0.459	0.441	0.425	0.410	0.396	0.382	0.370	0.319	0.283	0.255	0.199	0.166	0.128	0.106	0.080
ES-7	0.804	0.765	0.729	0.699	0.671	0.645	0.621	0.599	0.578	0.559	0.541	0.466	0.414	0.372	0.291	0.242	0.185	0.154	0.116
ES-9	1.035	0.985	0.942	0.902	0.867	0.834	0.803	0.775	0.748	0.723	0.700	0.603	0.535	0.480	0.375	0.311	0.238	0.197	0.148
ES-11	1.268	1.209	1.158	1.111	1.068	1.028	0.990	0.955	0.923	0.892	0.863	0.744	0.657	0.589	0.458	0.378	0.287	0.237	0.177
ES-13	1.487	1.422	1.363	1.308	1.258	1.212	1.169	1.128	1.090	1.054	1.019	0.877	0.773	0.692	0.534	0.440	0.331	0.271	0.201
ES-15	1.702	1.635	1.574	1.519	1.467	1.419	1.375	1.332	1.291	1.252	1.215	1.064	0.950	0.858	0.675	0.561	0.427	0.349	0.258
ES-17	1.932	1.856	1.787	1.723	1.664	1.610	1.559	1.511	1.464	1.420	1.378	1.206	1.076	0.971	0.761	0.631	0.477	0.388	0.285
ES-19	2.163	2.078	2.001	1.929	1.863	1.802	1.745	1.690	1.638	1.588	1.542	1.348	1.202	1.084	0.848	0.701	0.528	0.428	0.312
ES-21	2.394	2.299	2.214	2.134	2.061	1.993	1.930	1.870	1.811	1.756	1.705	1.490	1.327	1.196	0.934	0.772	0.578	0.467	0.339
ES-23	2.724	2.614	2.513	2.421	2.337	2.260	2.188	2.120	2.052	1.988	1.928	1.681	1.497	1.349	1.055	0.872	0.656	0.532	0.389
ES-25	2.953	2.832	2.723	2.622	2.531	2.447	2.368	2.294	2.219	2.149	2.083	1.812	1.610	1.449	1.130	0.933	0.700	0.567	0.414
ES-27	3.178	3.047	2.930	2.820	2.723	2.630	2.545	2.465	2.383	2.306	2.234	1.938	1.719	1.544	1.201	0.990	0.741	0.599	0.436
ES-29	3.409	3.268	3.142	3.027	2.921	2.823	2.731	2.644	2.558	2.479	2.403	2.090	1.855	1.668	1.299	1.072	0.805	0.654	0.479
ES-31	3.611	3.461	3.327	3.207	3.095	2.992	2.895	2.802	2.711	2.627	2.547	2.217	1.967	1.768	1.375	1.134	0.848	0.686	0.501
ES-33	3.808	3.651	3.510	3.383	3.266	3.158	3.056	2.957	2.861	2.772	2.688	2.341	2.078	1.867	1.450	1.193	0.890	0.718	0.521
ES-35	4.015	3.850	3.703	3.569	3.446	3.332	3.224	3.119	3.018	2.924	2.836	2.470	2.193	1.971	1.528	1.257	0.935	0.753	0.545
ES-37	4.214	4.042	3.889	3.747	3.619	3.500	3.386	3.275	3.169	3.070	2.978	2.595	2.303	2.070	1.603	1.317	0.978	0.784	0.566

1.215 Specific Gravity Discharge Rates (kW per cell*) to 1.67Vpc at 77°F (25°C)**

Battery Type	Minutes																		
	5	6	7	8	9	10	11	12	13	14	15	20	25	30	45	60	90	120	180
ES-5	0.580	0.549	0.521	0.496	0.474	0.454	0.437	0.420	0.405	0.391	0.378	0.324	0.286	0.256	0.199	0.166	0.128	0.106	0.080
ES-7	0.846	0.801	0.762	0.726	0.694	0.666	0.640	0.616	0.594	0.573	0.554	0.474	0.418	0.375	0.291	0.242	0.185	0.154	0.116
ES-9	1.090	1.035	0.985	0.941	0.900	0.864	0.830	0.799	0.770	0.743	0.718	0.615	0.542	0.485	0.375	0.311	0.238	0.197	0.148
ES-11	1.335	1.271	1.212	1.160	1.111	1.067	1.026	0.988	0.952	0.919	0.888	0.759	0.668	0.596	0.459	0.378	0.287	0.237	0.177
ES-13	1.567	1.495	1.429	1.369	1.313	1.261	1.214	1.169	1.127	1.088	1.052	0.896	0.787	0.701	0.536	0.440	0.331	0.271	0.201
ES-15	1.790	1.715	1.646	1.584	1.527	1.475	1.426	1.380	1.337	1.295	1.256	1.090	0.969	0.872	0.682	0.565	0.427	0.349	0.258
ES-17	2.031	1.946	1.868	1.798	1.733	1.674	1.618	1.566	1.517	1.470	1.425	1.237	1.098	0.988	0.769	0.635	0.477	0.388	0.285
ES-19	2.273	2.178	2.091	2.013	1.940	1.873	1.811	1.753	1.698	1.645	1.594	1.383	1.227	1.103	0.858	0.706	0.528	0.428	0.312
ES-21	2.515	2.410	2.314	2.227	2.147	2.073	2.004	1.939	1.878	1.820	1.764	1.529	1.356	1.219	0.946	0.776	0.578	0.467	0.339
ES-23	2.850	2.728	2.616	2.518	2.425	2.341	2.262	2.189	2.122	2.054	1.989	1.722	1.527	1.372	1.065	0.875	0.656	0.532	0.389
ES-25	3.090	2.956	2.836	2.727	2.626	2.535	2.449	2.369	2.295	2.221	2.151	1.856	1.642	1.474	1.141	0.936	0.700	0.567	0.414
ES-27	3.326	3.182	3.052	2.933	2.825	2.725	2.632	2.547	2.465	2.386	2.309	1.986	1.754	1.572	1.214	0.994	0.741	0.599	0.436
ES-29	3.578	3.425	3.285	3.156	3.039	2.932	2.833	2.740	2.652	2.568	2.485	2.141	1.893	1.696	1.312	1.075	0.805	0.654	0.479
ES-31	3.792	3.630	3.483	3.347	3.224	3.110	3.006	2.907	2.815	2.724	2.637	2.274	2.009	1.800	1.390	1.137	0.848	0.686	0.501
ES-33	4.001	3.831	3.677	3.535	3.406	3.285	3.175	3.071	2.974	2.878	2.786	2.405	2.125	1.903	1.467	1.198	0.890	0.718	0.521
ES-35	4.221	4.042	3.881	3.731	3.595	3.468	3.351	3.242	3.140	3.038	2.942	2.540	2.244	2.010	1.547	1.262	0.935	0.753	0.545
ES-37	4.434	4.246	4.078	3.920	3.778	3.645	3.522	3.409	3.300	3.192	3.092	2.672	2.360	2.113	1.625	1.324	0.978	0.784	0.566

Constant Power Discharge Performance Data Continued

1.215 Specific Gravity Discharge Rates (kW per cell*) to 1.65Vpc at 77°F (25°C)**

Battery Type	Minutes																		
	5	6	7	8	9	10	11	12	13	14	15	20	25	30	45	60	90	120	180
ES-5	0.596	0.562	0.533	0.506	0.482	0.461	0.443	0.425	0.410	0.395	0.381	0.326	0.286	0.256	0.199	0.166	0.128	0.106	0.080
ES-7	0.870	0.822	0.780	0.742	0.707	0.677	0.650	0.625	0.601	0.580	0.560	0.478	0.420	0.375	0.291	0.242	0.185	0.154	0.116
ES-9	1.123	1.064	1.011	0.962	0.918	0.880	0.844	0.812	0.781	0.753	0.727	0.620	0.545	0.486	0.375	0.311	0.238	0.197	0.148
ES-11	1.377	1.307	1.245	1.187	1.135	1.088	1.045	1.005	0.967	0.932	0.900	0.766	0.671	0.598	0.459	0.378	0.287	0.237	0.177
ES-13	1.616	1.538	1.468	1.403	1.343	1.288	1.237	1.191	1.147	1.106	1.067	0.906	0.792	0.705	0.536	0.440	0.331	0.271	0.201
ES-15	1.842	1.761	1.687	1.620	1.561	1.505	1.453	1.405	1.359	1.317	1.276	1.103	0.978	0.879	0.684	0.565	0.427	0.349	0.258
ES-17	2.089	1.998	1.915	1.839	1.771	1.708	1.649	1.595	1.543	1.495	1.448	1.251	1.108	0.995	0.772	0.635	0.477	0.388	0.285
ES-19	2.338	2.236	2.143	2.059	1.983	1.912	1.846	1.785	1.727	1.674	1.621	1.400	1.239	1.112	0.860	0.706	0.528	0.428	0.312
ES-21	2.586	2.473	2.371	2.278	2.194	2.115	2.043	1.975	1.912	1.852	1.794	1.549	1.370	1.229	0.948	0.776	0.578	0.467	0.339
ES-23	2.923	2.792	2.676	2.569	2.473	2.384	2.301	2.226	2.154	2.087	2.022	1.742	1.540	1.381	1.066	0.875	0.656	0.532	0.389
ES-25	3.170	3.027	2.900	2.784	2.679	2.582	2.492	2.408	2.331	2.258	2.186	1.878	1.658	1.484	1.142	0.936	0.700	0.567	0.414
ES-27	3.414	3.259	3.122	2.995	2.882	2.776	2.678	2.588	2.504	2.425	2.347	2.011	1.771	1.584	1.215	0.994	0.741	0.599	0.436
ES-29	3.680	3.515	3.365	3.229	3.106	2.993	2.888	2.790	2.697	2.609	2.525	2.167	1.910	1.709	1.312	1.075	0.805	0.654	0.479
ES-31	3.899	3.727	3.570	3.427	3.296	3.177	3.066	2.962	2.864	2.772	2.682	2.303	2.029	1.815	1.391	1.137	0.848	0.686	0.501
ES-33	4.116	3.935	3.772	3.621	3.483	3.357	3.240	3.131	3.029	2.932	2.837	2.437	2.147	1.920	1.469	1.198	0.890	0.718	0.521
ES-35	4.345	4.153	3.982	3.824	3.678	3.546	3.422	3.307	3.199	3.097	2.997	2.576	2.268	2.029	1.550	1.262	0.935	0.753	0.545
ES-37	4.565	4.364	4.186	4.020	3.867	3.728	3.599	3.477	3.364	3.257	3.151	2.710	2.387	2.134	1.629	1.324	0.978	0.784	0.566

1.215 Specific Gravity Discharge Rates (kW per cell*) to 1.60Vpc at 77°F (25°C)**

Battery Type	Minutes																		
	5	6	7	8	9	10	11	12	13	14	15	20	25	30	45	60	90	120	180
ES-5	0.626	0.588	0.554	0.524	0.497	0.472	0.450	0.432	0.415	0.400	0.385	0.327	0.286	0.256	0.199	0.166	0.128	0.106	0.080
ES-7	0.919	0.863	0.814	0.771	0.731	0.695	0.664	0.637	0.612	0.589	0.567	0.480	0.420	0.375	0.291	0.242	0.185	0.154	0.116
ES-9	1.192	1.122	1.060	1.003	0.953	0.906	0.867	0.831	0.798	0.768	0.739	0.625	0.545	0.486	0.375	0.311	0.238	0.197	0.148
ES-11	1.465	1.383	1.309	1.242	1.181	1.125	1.076	1.032	0.991	0.953	0.918	0.774	0.673	0.598	0.459	0.378	0.287	0.237	0.177
ES-13	1.724	1.632	1.548	1.471	1.401	1.337	1.280	1.227	1.179	1.134	1.092	0.919	0.796	0.705	0.536	0.440	0.331	0.271	0.201
ES-15	1.947	1.852	1.768	1.691	1.620	1.556	1.498	1.445	1.396	1.349	1.306	1.122	0.988	0.884	0.684	0.565	0.427	0.349	0.258
ES-17	2.207	2.100	2.005	1.919	1.840	1.768	1.702	1.642	1.586	1.533	1.483	1.274	1.121	1.002	0.772	0.635	0.477	0.388	0.285
ES-19	2.468	2.350	2.244	2.148	2.060	1.980	1.907	1.839	1.776	1.717	1.662	1.426	1.254	1.120	0.860	0.706	0.528	0.428	0.312
ES-21	2.729	2.599	2.482	2.377	2.280	2.192	2.111	2.036	1.966	1.901	1.839	1.579	1.387	1.238	0.948	0.776	0.578	0.467	0.339
ES-23	3.070	2.922	2.789	2.668	2.560	2.461	2.371	2.287	2.210	2.137	2.069	1.774	1.556	1.388	1.066	0.875	0.656	0.532	0.389
ES-25	3.330	3.167	3.022	2.891	2.772	2.664	2.566	2.474	2.390	2.311	2.237	1.913	1.675	1.492	1.142	0.936	0.700	0.567	0.414
ES-27	3.585	3.409	3.253	3.110	2.982	2.864	2.757	2.658	2.567	2.481	2.401	2.048	1.790	1.592	1.215	0.994	0.741	0.599	0.436
ES-29	3.889	3.697	3.526	3.372	3.229	3.099	2.980	2.871	2.770	2.675	2.587	2.207	1.928	1.716	1.312	1.075	0.805	0.654	0.479
ES-31	4.126	3.924	3.744	3.582	3.432	3.296	3.171	3.055	2.947	2.847	2.753	2.349	2.052	1.825	1.391	1.137	0.848	0.686	0.501
ES-33	4.359	4.148	3.960	3.789	3.633	3.490	3.358	3.236	3.123	3.017	2.918	2.489	2.174	1.932	1.469	1.198	0.890	0.718	0.521
ES-35	4.602	4.381	4.183	4.003	3.840	3.690	3.552	3.423	3.303	3.191	3.087	2.633	2.300	2.042	1.550	1.262	0.935	0.753	0.545
ES-37	4.838	4.608	4.400	4.212	4.042	3.883	3.739	3.604	3.479	3.361	3.251	2.774	2.423	2.150	1.629	1.324	0.978	0.784	0.566

Constant Current Performance Data

1.250 Specific Gravity Ampere Rating for Minutes to Specified End Voltage to 1.75Vpc at 77°F (25°C)

Battery Type	Minutes												
	1	5	15	30	60	90	120	180	240	300	360	420	480
ES-5B	386.4	313.8	216.4	151.5	99.17	75.77	61.92	46.87	37.88	32.34	28.49	25.60	23.32
ES-7B	546.9	460.4	319.2	223.2	145.6	111.0	90.44	68.22	55.22	47.10	41.40	37.12	33.74
ES-9B	674.3	594.3	414.7	289.5	187.6	142.6	115.9	87.09	70.41	59.92	52.55	47.00	42.64
ES-11B	795.2	723.6	506.6	353.4	227.7	172.4	139.7	104.4	83.69	71.00	62.20	55.62	50.46
ES-13B	904.4	846.6	594.2	413.7	265.0	199.6	161.5	119.8	95.22	80.43	70.29	62.77	56.90
ES-15B	1050	974.8	708.2	505.9	332.0	252.0	204.6	151.9	120.6	101.2	87.83	77.93	70.22
ES-17B	1183	1109	804.9	575.3	375.4	283.4	229.2	168.9	133.3	111.2	96.07	84.85	76.15
ES-19B	1319	1244	901.9	644.8	419.1	315.0	254.2	185.9	146.3	121.7	104.7	92.07	82.34
ES-21B	1455	1378	998.7	714.3	462.6	346.5	279.0	202.6	158.9	131.6	112.9	99.05	88.38
ES-23B	1732	1577	1124	793.9	514.4	387.6	312.8	228.0	179.6	149.7	129.2	114.1	102.3
ES-25B	1841	1706	1214	857.6	553.8	415.8	335.3	244.2	192.0	159.9	137.7	121.4	108.8
ES-27B	1962	1837	1306	922.6	594.1	444.8	358.7	260.7	203.5	168.8	145.1	127.7	114.3
ES-29B	2194	1958	1395	980.0	632.0	475.9	384.2	281.1	221.5	185.1	160.1	141.7	127.4
ES-31B	2299	2073	1481	1043	671.0	503.4	405.4	295.5	232.4	193.7	167.1	147.5	132.3
ES-33B	2393	2187	1565	1105	709.3	530.2	426.1	309.3	242.6	201.6	173.5	152.8	136.7
ES-35B	2504	2307	1652	1169	749.1	558.5	448.2	324.0	253.4	210.0	180.2	158.2	141.3
ES-37B	2606	2422	1738	1231	787.5	585.4	469.1	337.9	263.8	218.0	186.5	163.4	145.7

1.250 Specific Gravity Ampere Rating for Minutes to Specified End Voltage to 1.67Vpc at 77°F (25°C)

Battery Type	Minutes												
	1	5	15	30	60	90	120	180	240	300	360	420	480
ES-5B	511.2	375.5	240.2	158.6	99.75	75.77	61.92	46.87	37.88	32.34	28.49	25.60	23.32
ES-7B	735.2	552.1	356.4	235.1	146.7	111.0	90.44	68.22	55.22	47.10	41.40	37.12	33.74
ES-9B	903.9	714.3	467.1	307.6	189.8	142.6	115.9	87.09	70.41	59.92	52.55	47.00	42.64
ES-11B	1061	872.1	575.1	377.5	231.1	172.7	139.7	104.4	83.69	71.00	62.20	55.62	50.46
ES-13B	1201	1023	679.1	444.3	270.1	200.5	161.5	119.8	95.22	80.43	70.29	62.77	56.90
ES-15B	1405	1177	807.0	548.2	344.3	256.7	206.8	152.3	120.6	101.2	87.83	77.93	70.22
ES-17B	1571	1334	920.7	625.0	389.7	288.4	231.2	168.9	133.3	111.2	96.07	84.85	76.15
ES-19B	1739	1493	1034	702.0	435.2	320.5	256.0	185.9	146.3	121.7	104.7	92.07	82.34
ES-21B	1908	1652	1148	778.9	480.7	352.4	280.7	202.6	158.9	131.6	112.9	99.05	88.38
ES-23B	2313	1874	1276	858.8	529.0	390.8	312.8	228.0	179.6	149.7	129.2	114.1	102.3
ES-25B	2424	2024	1386	929.5	571.0	420.3	335.9	244.2	192.0	159.9	137.7	121.4	108.8
ES-27B	2562	2178	1497	1001	613.9	450.6	359.8	260.7	203.5	168.8	145.1	127.7	114.3
ES-29B	2923	2353	1592	1062	650.6	480.5	384.7	281.1	221.5	185.1	160.1	141.7	127.4
ES-31B	3047	2493	1698	1134	692.5	508.9	406.3	295.5	232.4	193.7	167.1	147.5	132.3
ES-33B	3170	2632	1802	1205	733.8	536.8	427.4	309.3	242.6	201.6	173.5	152.8	136.7
ES-35B	3307	2778	1908	1277	776.4	566.2	449.7	324.0	253.4	210.0	180.2	158.2	141.3
ES-37B	3433	2920	2010	1348	817.9	594.3	471.0	337.9	263.8	218.0	186.5	163.4	145.7

Constant Current Performance Data

1.215 Specific Gravity Ampere Rating for Minutes to Specified End Voltage to 1.75Vpc at 77°F (25°C)

Battery Type	Minutes												
	1	5	15	30	60	90	120	180	240	300	360	420	480
ES-5B	335.9	282.2	194.9	136.8	89.85	68.84	56.32	42.60	34.40	29.34	25.82	23.18	21.11
ES-7	470.0	410.3	284.1	199.1	130.7	100.0	81.70	61.68	49.71	42.37	37.27	33.45	30.44
ES-9	576.4	527.1	366.4	256.1	167.6	128.2	104.6	78.74	63.37	53.95	47.41	42.52	38.68
ES-11	690.3	646.0	450.1	313.3	203.1	154.4	125.9	94.17	75.41	63.98	56.09	50.20	45.58
ES-13	793.5	757.2	529.1	366.3	234.6	177.1	143.7	107.0	85.24	72.01	62.89	56.10	50.80
ES-15	903.9	866.7	631.9	454.8	299.3	227.0	184.6	137.0	109.5	92.09	80.00	70.92	63.84
ES-17	1025	985.5	715.8	513.1	335.5	253.3	205.1	151.1	120.3	100.7	86.88	76.66	68.73
ES-19	1146	1105	800.1	571.9	372.2	279.9	226.0	165.6	131.5	109.5	94.12	82.72	73.89
ES-21	1267	1224	884.1	630.4	408.6	306.4	246.7	179.9	142.2	117.8	101.0	88.53	78.91
ES-23	1494	1405	1004	714.3	463.9	349.5	282.3	207.3	163.6	136.5	117.7	103.8	93.04
ES-25	1609	1522	1082	765.7	495.3	372.4	300.3	220.3	174.0	144.9	124.8	109.8	98.27
ES-27	1721	1638	1158	814.9	524.8	393.5	317.1	232.0	183.2	152.3	131.0	115.2	103.0
ES-29	1895	1743	1246	881.8	569.8	428.8	346.6	255.4	201.9	168.7	145.9	128.9	115.8
ES-31	1994	1844	1319	932.8	601.3	451.0	363.6	266.6	210.6	175.6	151.4	133.5	119.6
ES-33	2081	1942	1390	982.8	631.7	472.2	379.7	277.2	218.8	182.0	156.5	137.7	123.1
ES-35	2180	2047	1465	1036	664.4	495.7	398.1	289.5	227.8	188.8	161.9	142.1	126.7
ES-37	2270	2146	1537	1086	695.2	517.3	414.6	300.5	236.1	195.1	166.9	146.1	130.0

1.215 Specific Gravity Ampere Rating for Minutes to Specified End Voltage to 1.67Vpc at 77°F (25°C)

Battery Type	Minutes												
	1	5	15	30	60	90	120	180	240	300	360	420	480
ES-5	465.4	342.5	217.6	143.6	90.68	68.88	56.32	42.60	34.40	29.34	25.82	23.18	21.11
ES-7	660.2	500.2	319.3	210.5	132.1	100.1	81.70	61.68	49.71	42.37	37.27	33.45	30.44
ES-9	814.1	646.0	414.2	273.0	170.1	128.4	104.6	78.74	63.37	53.95	47.41	42.52	38.68
ES-11	965.6	793.3	512.5	335.7	207.1	155.3	125.9	94.17	75.41	63.98	56.09	50.20	45.58
ES-13	1094.0	932.6	607.4	394.5	240.7	179.0	144.2	107.0	85.24	72.01	62.89	56.10	50.80
ES-15	1238.0	1065	730.0	495.6	313.0	233.3	188.0	138.5	109.9	92.25	80.01	70.92	63.84
ES-17	1407.0	1209	828.1	560.8	351.3	260.2	208.6	152.4	120.6	100.7	86.88	76.66	68.73
ES-19	1573.0	1353	926.6	626.3	390.0	287.5	229.7	166.8	131.6	109.5	94.12	82.72	73.89
ES-21	1740.0	1497	1025	691.6	428.4	314.6	250.6	180.9	142.2	117.8	101.0	88.53	78.91
ES-23	2042.0	1695	1154	776.6	480.9	355.3	284.4	207.3	163.6	136.5	117.7	103.8	93.04
ES-25	2200.0	1838	1247	834.0	514.9	379.5	303.3	220.5	174.0	144.9	124.8	109.8	98.27
ES-27	2353.0	1979	1339	889.2	547.2	402.3	321.0	232.7	183.2	152.3	131.0	115.2	103.0
ES-29	2580.0	2129	1441	959.9	591.5	436.8	349.7	255.5	201.9	168.7	145.9	128.9	115.8
ES-31	2720.0	2256	1530	1019	625.9	460.3	367.3	267.1	210.6	175.6	151.4	133.5	119.6
ES-33	2855.0	2382	1618	1078	659.5	483.0	384.2	278.0	218.8	182.0	156.5	137.7	123.1
ES-35	2993.0	2514	1709	1139	695.0	507.6	403.2	290.5	227.8	188.8	161.9	142.1	126.7
ES-37	3121.0	2641	1797	1197	729.0	530.6	420.5	301.7	236.1	195.1	166.9	146.1	130.0

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