

# BATTERY SELECTION GUIDE



INDUSTRIAL POWER SOLUTIONS



## How to Order PowerCare Batteries

To get the exact battery you want, be sure your order includes the following:

Selecting Your PowerCare Battery		
To select a battery	Where to find it	Example
1. Determine system voltage	Inspect truck or battery name plate	24-volt, 12-cell battery
2. Either: A. Determine battery type required.  Or B. Determine truck battery compartment dimensions.	Look at intercell connector name plate on battery.  Measure truck battery compartment size.	12-P125-13  32.25" x 13.5" x Open
3. Then: A. Select battery dimensions to fit the truck compartment.  Or B. Select battery with maximum capacity or smaller size if desired to fit the truck compartment. (Battery with less capacity may be selected, if desired.) C. Determine if battery cover is required and type of cover needed.	Length (x) & Width (y) 12 volt - Table 2 24 volt - Table 4 36 volt - Table 5  Height (z) Table 1* (*Covered 12 & 24 volt batteries for Walkie and Narrow Aisle trucks normally use a dome cover.)	(x) (y) (z)  30.88" x 12.88" x 31"  12-P125-13  *Covered since the compartment is open. Uses a dome cover.
4. Determine whether battery weight meets counterbalance requirement and kWh and Ah capacity to meet duty cycle requirement.	Table 8	1400 lb minimum weight 17.4 kWh, 750 Ah
5. Determine position and length of leads.	Figure 1, 2, 3 or 4	Position B - 13" leads.
6. Determine correct connector, plug or receptacle type.	Table 12	SB-175 6325G1

### Cable length and position for Walkie or Narrow Aisle trucks

If the dimensions of the battery you desire are too small to fit your compartment properly (I.T.A. recommends a 0.5-inch maximum clearance for length and width), specify the dimensions desired.

Cover to be flush when opened 90%

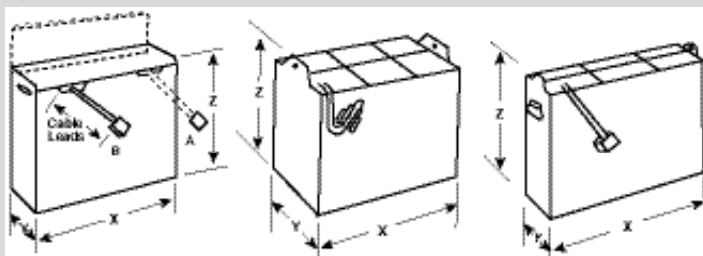


Figure 1

Figure 2

Figure 3

Figure 4

Typical battery assembly for rider trucks (ITA class 1)

Specify lead length

Lead positions  
A, B, C, D — Flying

Lead positions  
E, F, G, H — Mounted  
(Add receptacle thickness to X or Y dimension)



Standard Heights for All Batteries

Cell Type Narrow Series	No Cover		Dome Cover		Flat Cover	
	in	mm	in	mm	in	mm
P45	15.00	381	15.63	397	16.13	410
P55	18.44	468	19.13	486	19.13	486
P75L	21.38	543	22.00	559	22.50	572
P75, P85	22.63	575	23.25	591	23.75	603
P75E	24.00	610	25.25	641	25.81	656
P85E, P100	25.63	651	26.25	667	26.81	681
P90, PH95	23.13	587	23.63	600	24.00	610
P125, PH137	30.63	778	31.00	787	31.75	806
<b>Wide Series</b>						
P150, P170	30.31	770	31.00	787	31.75	806

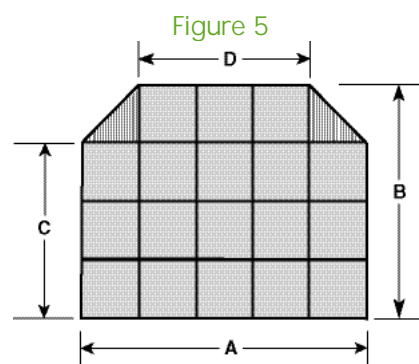
Battery Dimensions for Walkie and Narrow Aisle Trucks

Cell Layout	Plates per Cell	Narrow Series				Wide Series			
		X		Y		X		Y	
		in	mm	in	mm	in	mm	in	mm
9 x 1	5	18.81	478	6.56	167				
	7	25.56	649	6.56	167				
	9					32.44	824	9.13	232
	11					39.19	995	9.13	232
3 x 3	13	46.94	1167	9.13	232				
	9	19.00	483	10.94	278	26.63	676	11.06	281
	11	19.13	486	13.31	339	26.63	676	13.44	341
Irregular	13	19.13	486	15.56	395				
	11	32.19	818	11.06	281	40.50	1029	10.63	270
	13	35.88	911	11.81	300	41.38	1051	12.13	308

Battery Dimensions for Walkie and Narrow Aisle Trucks

Cell Layout	Plates per Cell	Narrow Series				Wide Series			
		X		Y		X		Y	
		in	mm	in	mm	in	mm	in	mm
1 x 6	5	12.25	324	6.56	167				
	7	17.25	438	6.56	167				
	9	21.75	552	6.56	167	21.75	552	9.13	232
	11	26.25	667	6.56	167	26.38	670	9.13	232
	13	30.75	781	6.56	167	30.88	784	9.13	232
	15	35.38	899	6.69	170	35.38	899	9.13	232
	17	38.38	975	6.69	170	39.88	1013	9.13	232
	19	38.38	975	6.69	170			9.13	232
3 x 2	9					26.69	678	7.50	191
	11					26.69	678	9.00	229
	13					26.69	678	10.50	267
	15	17.94	456	13.00	330	26.69	678	12.00	305
	17	20.25	514	13.00	330				
	19	22.50	572	13.00	330				
	21	24.75	629	13.00	330				
	23	27.00	686	13.00	330				
25	29.25	743	13.00	330					

Cell Layout	Plates per Cell	Narrow Series				Wide Series			
		X		Y		X		Y	
		in	mm	in	mm	in	mm	in	mm
12 x 1	5	24.88	632	6.56	167				
	7	33.88	861	6.56	167				
	9	42.88	1089	6.56	167	43.00	1092	9.13	232
6 x 2	9	38.00	965	7.50	191				
	11	38.00	965	9.00	229				
	13	26.38	670	12.88	327				
	13	30.88	784	12.88	327	31.06	789	17.88	454
	13	38.00	965	10.50	267				
	15	35.56	903	13.00	330				
	17	38.50	978	13.63	346				
	19	38.50	978	15.13	384				
4 x 3	7	25.38	645	8.69	221				
	9	25.38	645	11.06	281	35.25	895	11.06	281
	11	25.38	645	13.31	339	35.44	900	13.44	341
	13	25.50	571	15.56	395	35.44	900	15.69	399
	15	23.75	603	19.25	489	35.44	900	17.94	456
	15	25.50	571	17.81	452				
	17	25.75	654	20.06	510	35.56	903	20.19	513
	17	26.75	679	19.25	489				
Irregular	19	25.75	654	22.31	567				
	19	29.75	756	19.25	489				
Irregular	11	32.19	828	11.06	281				
	13	35.88	911	11.81	300				



Plates per Cell	Narrow Series							
	A		B		C		D	
	in	mm	in	mm	in	mm	in	mm
13	31.94	811	20.69	526	15.44	392	19.25	489
15	32.25	819	23.69	602	17.69	449	19.25	489
17	32.25	819	26.94	684	19.94	506	19.25	489
19	32.25	819	29.94	760	22.44	570	19.25	489
21	32.94	837	32.25	819	25.75	654	16.44	418
23	35.94	913	32.25	819	35.50	902	17.94	456



INDUSTRIAL POWER SOLUTIONS

Battery Dimensions for Rider-Type Trucks

Table 6 — Narrow Series

Plates	Cell Arrang. L=Long S=Short	12 Cell 24 Volt		15 Cell 30 Volt		16 Cell 32 Volt		18 Cell 36 Volt		18 Cell 36 Volt		24 Cell 48 Volt		36 Cell 72 Volt	
		X in mm	Y in mm	X in mm	Y in mm	X in mm	Y in mm	X in mm (6 x 3 Layout)	Y in mm	X in mm (5 x 4 Layout)	Y in mm	X in mm	Y in mm	X in mm	Y in mm
9	L	25.50 648	11.06 281	31.75 806	11.06 281	25.50 648	14.56 370	38.00 965	11.06 281	31.75 806	14.56 370	38.19 970	14.69 373	38.19 970	21.75 552
	S	19.31 490	14.56 370	19.31 490	18.13 461			21.88 556	19.13 486	25.50 648	18.13 461	25.69 653	21.75 552	32.63 829	25.44 646
11	L	25.50 648	13.31 338	31.75 806	13.31 338	25.69 653	17.69 449	38.19 970	13.44 341	31.94 811	17.69 449	38.19 970	17.69 449	38.19 970	26.56 675
	S	19.31 490	17.56 446	22.06 560	19.13 486			26.56 675	19.25 489	25.69 653	22.00 559	26.56 675	25.44 646	39.38 1000	25.69 653
13	L	25.50 648	15.56 395	31.94 811	15.69 399	25.69 653	20.69 526	38.19 970	15.69 399	31.94 811	20.69 526	38.19 970	20.94 532	46.13 1172	25.69 653
	S	20.63 524	19.13 486	26.00 660	19.25 489			31.06 789	19.25 489	25.75 654	25.69 653	31.06 789	25.69 653	38.19 970	31.06 789
15	L	25.94 659	17.94 456	32.25 819	17.94 456	25.94 659	23.69 602	38.56 979	17.94 456	32.25 819	23.69 602	38.56 979	23.94 608	53.19 1351	25.94 659
	S	23.94 608	19.44 494	29.75 756	19.44 494			35.56 903	19.44 494	29.75 756	25.69 653	35.44 900	26.06 662	38.56 979	35.56 903
17	L	26.94 684	19.44 494	33.50 851	19.44 494	26.94 684	25.94 659	40.06 1018	19.44 494	33.38 848	25.38 645	40.06 1018	25.94 659	57.69 1465	26.94 684
	S	25.94 659	20.19 513	32.25 819	20.19 513			38.56 979	20.19 513	32.25 819	26.94 684	38.56 979	26.94 684	40.06 1018	38.56 979
19	L	29.94 760	19.44 494	37.25 946	19.44 494	29.94 760	25.94 659	44.56 1132	19.44 494	35.25 921	25.69 659	44.56 1132	25.94 659	57.69 1465	29.94 760
	S	25.94 659	22.44 570	32.25 819	22.44 570			38.56 979	22.44 570	32.25 819	29.94 760	38.56 979	29.94 760	44.56 1132	38.56 979
21	L	32.94 837	19.44 494	41.00 1041	19.44 494	32.94 837	25.94 659	49.06 124	19.44 494	41.00 1041	25.94 659	49.25 1251	25.94 659	57.94 1472	33.50 851
	S	25.94 659	24.69 627	32.25 819	24.69 627			38.56 979	24.69 627	32.94 837	32.25 819	38.56 979	32.94 837	49.50 1257	39.00 991
23	L	35.94 913	19.44 494	44.75 1137	19.44 494	35.94 913	25.94 659	53.56 1360	19.44 494	44.75 1137	25.94 659	53.75 1365	25.94 659	57.94 1472	36.50 927
	S	27.19 691	25.69 653	32.25 819	26.94 684			38.56 979	26.94 684	35.94 913	32.25 819	38.56 979	35.94 913	54.00 1372	39.00 991
25	L	38.94 989	19.44 494	48.50 1232	19.44 494	38.94 989	25.94 659	58.06 1475	19.44 494	48.69 1237	25.94 659	58.25 1480	25.94 659	58.50 1486	39.00 991
	S	29.44 748	25.69 653	32.25 819	29.19 741			38.56 979	29.19 741	38.94 989	32.25 819	38.94 989	38.56 979	57.94 1472	39.50 1003
27	L	41.94 1065	19.44 494	52.25 1327	19.44 494	41.94 1065	25.94 659	38.56 979	31.69 805	52.44 1332	25.94 659	62.75 1594	25.94 659	63.00 1600	39.00 991
	S	31.69 805	25.69 653	32.25 819	31.44 799					41.94 1065	32.25 819	41.94 1065	38.56 979	57.94 1472	42.50 1080
29	L	44.94 1141	19.44 494	56.25 1429	19.44 494	44.94 1141	25.94 659	38.56 979	33.94 862	56.19 1427	25.94 659	67.50 1715	25.94 659	67.50 1715	39.00 991
	S	33.94 862	25.69 653	33.94 862	32.25 819					44.94 1141	32.25 819	44.94 1141	38.56 979	57.94 1472	45.50 1156
31	L	48.25 1226	19.44 494	60.00 1524	19.44 494	48.25 1226	25.94 659	38.56 979	36.19 919	59.94 1522	25.94 659	72.00 1829	25.94 659	72.00 1829	39.00 991
	S	36.19 919	25.69 653	36.19 919	32.25 819					48.25 1226	32.25 819	48.25 1226	38.56 979	57.94 1472	48.50 1232
33	L	51.25 1302	19.44 494	63.75 1619	19.44 494	51.25 1302	25.94 659	38.56 979	38.44 976	63.69 1618	25.94 659	76.50 1943	25.94 659	76.50 1943	39.00 991
	S	38.44 976	25.69 653	38.44 976	32.25 819					51.25 1302	32.25 819	51.25 1302	38.56 979	57.94 1472	51.50 1308



INDUSTRIAL POWER SOLUTIONS

Battery Dimensions for Rider-Type Trucks

Table 7 — Wide Series											
Plates	Cell Arrang. L=Long S=Short	12 Cell 24 Volt		15 Cell 30 Volt		16 Cell 32 Volt		18 Cell 36 Volt		24 Cell 48 Volt	
		X in mm	Y in mm	X in mm	Y in mm	X in mm	Y in mm	X in mm	Y in mm	X in mm	Y in mm
9	L	35.25 895	11.06 281	44.13 1121	11.19 284	35.44 900	14.69 373	52.81 1341	11.19 284	35.44 900	21.75 552
	S	26.63 676	14.56 370	26.81 681	18.25 464			26.81 681	21.75 552		
11	L	35.44 900	13.44 341	44.13 1121	13.44 341	35.44 900	17.69 449	52.81 1341	13.44 341	35.44 900	26.25 667
	S	26.81 681	17.69 449	26.81 681	22.00 559			26.81 681	26.25 667		
13	L	35.44 900	15.69 399	44.13 1121	15.69 399	35.44 900	20.69 526	52.81 1341	15.69 399	35.44 900	31.06 789
	S	26.81 681	20.69 526	26.81 681	25.75 654			31.06 789	26.56 675		
15	L	35.44 900	17.94 456	44.13 1121	17.94 456	35.44 900	23.69 602	52.81 1341	17.94 456	35.56 903	35.44 900
	S	26.81 681	23.69 602	29.75 756	26.56 675			35.56 903	26.56 675		
17	L	35.44 900	20.19 513	44.13 1121	20.19 513	35.44 900	26.69 678	52.81 1341	20.19 513	40.25 1022	35.44 900
	S	26.81 681	26.69 678	33.50 851	26.56 675			40.04 1018	26.56 675		
19	L	35.44 900	22.44 570	44.13 1121	22.44 570	35.44 900	29.69 754	52.81 1341	22.44 570	44.75 1137	35.44 900
	S	29.94 760	26.56 675	37.25 946	26.56 675			44.56 1132	26.56 675		
21	L	35.44 900	24.69 627	44.13 1121	24.69 627	35.44 900	32.69 830	53.00 1346	24.69 627	49.25 1251	35.44 900
	S	32.94 837	26.56 675	41.00 1041	26.56 675			49.25 1251	26.56 675		
25	L	39.25 997	26.56 675	48.69 1237	26.69 678	39.13 994	35.31 897	58.25 1480	26.56 675	58.25 1480	35.44 900
	S	35.75 908	29.19 741	44.31 1125	29.31 744			53.00 1346	29.19 741		
31	L	48.25 1226	26.56 675	59.94 1522	26.69 678	48.13 1223	35.31 897	71.56 1818	26.56 675	72.13 1832	35.75 908
	S	36.19 919	35.19 894	44.31 1125	36.31 922			53.00 1346	35.94 913		



Capacities and Weights of Rider-Type Truck Batteries Without Cover — For Weights With Cover, Multiply by 1.015

Table 8

Plates Per Cell	Cell Type	6 Hour Capacity Ah	1 Cell				6 Cell		12 Cell		18 Cell		24 Cell						
			kWh	Weight lb	Weight kg	Volume Gal	kWh	Weight lb	kWh	Weight lb	kWh	Weight lb	kWh	Weight lb					
5	P45	90	0.17	19.9	9.0	0.3	1.2	1.0	120	54	2.1	239	108	3.1	359	163	4.2	478	217
7	P45	135	0.26	27.9	12.7	0.4	1.7	1.6	167	76	3.1	335	152	4.7	502	228	6.3	670	304
9	P45	180	0.35	35.9	16.3	0.6	2.2	2.1	215	98	4.2	430	195	6.3	646	293	8.3	861	390
11	P45	225	0.43	43.8	19.9	0.7	2.7	2.6	263	119	5.2	526	239	7.8	789	358	10.4	1052	477
13	P45	270	0.52	51.8	23.5	0.8	3.1	3.1	311	141	6.3	622	282	9.4	933	423	12.5	1243	564
15	P45	315	0.61	59.8	27.1	1.0	3.6	3.6	359	163	7.3	717	325	10.9	1076	488	14.6	1435	651
17	P45	360	0.69	67.8	30.7	1.1	4.1	4.2	407	184	8.3	813	369	12.5	1220	553	16.7	1626	738
19	P45	405	0.78	75.7	34.3	1.2	4.6	4.7	454	206	9.4	909	412	14.1	1363	618	18.8	1817	824
21	P45	450	0.87	83.7	38.0	1.3	5.1	5.2	502	228	10.4	1004	456	15.6	1506	683	20.8	2009	911
23	P45	495	0.96	91.7	41.6	1.5	5.6	5.7	550	249	11.5	1100	499	17.2	1650	748	22.9	2200	998
25	P45	540	1.04	99.6	45.2	1.6	6.0	6.3	598	271	12.5	1196	542	18.8	1793	813	25.0	2391	1085
27	P45	585	1.13	107.6	48.8	1.7	6.5	6.8	646	293	13.6	1291	586	20.3	1937	879	27.1	2583	1171
29	P45	630	1.22	115.6	52.4	1.8	7.0	7.3	693	315	14.6	1387	629	21.9	2080	944	29.2	2774	1258
31	P45	675	1.30	123.5	56.0	2.0	7.5	7.8	741	336	15.6	1483	672	23.5	2224	1009	31.3	2965	1345
33	P45	720	1.39	131.5	59.7	2.1	8.0	8.3	789	358	16.7	1578	716	25.0	2367	1074	33.4	3156	1432
5	P55	110	0.21	24.9	11.3	0.4	1.6	1.3	149	68	2.5	298	135	3.8	448	203	5.1	597	271
7	P55	165	0.32	34.8	15.8	0.6	2.2	1.9	209	95	3.8	418	189	5.7	627	284	7.6	836	379
9	P55	220	0.42	44.8	20.3	0.7	2.8	2.5	269	122	5.1	537	244	7.6	806	365	10.2	1074	487
11	P55	275	0.53	54.7	24.8	0.9	3.5	3.2	328	149	6.4	657	298	9.6	985	447	12.7	1313	596
13	P55	330	0.64	64.7	29.3	1.1	4.1	3.8	388	176	7.6	776	352	11.5	1164	528	15.3	1552	704
15	P55	385	0.74	74.6	33.8	1.2	4.7	4.5	448	203	8.9	895	406	13.4	1343	609	17.8	1790	812
17	P55	440	0.85	84.5	38.4	1.4	5.3	5.1	507	230	10.2	1015	460	15.3	1522	690	20.4	2029	920
19	P55	495	0.96	94.5	42.9	1.6	6.0	5.7	567	257	11.5	1134	514	17.2	1701	772	22.9	2268	1029
21	P55	550	1.06	104.4	47.4	1.7	6.6	6.4	627	284	12.7	1253	568	19.1	1880	853	25.5	2507	1137
23	P55	605	1.17	114.4	51.9	1.9	7.2	7.0	686	311	14.0	1373	623	21.0	2059	934	28.0	2745	1245
25	P55	660	1.27	124.3	56.4	2.1	7.9	7.6	746	338	15.3	1492	677	22.9	2238	1015	30.6	2984	1354
27	P55	715	1.38	134.3	60.9	2.2	8.5	8.3	806	365	16.6	1611	731	24.8	2417	1096	33.1	3223	1462
29	P55	770	1.49	144.2	65.4	2.4	9.1	8.9	865	393	17.8	1731	785	26.8	2596	1178	35.7	3462	1570
31	P55	825	1.59	154.2	69.9	2.6	9.8	9.6	925	420	19.1	1850	839	28.7	2775	1259	38.2	3700	1678
33	P55	880	1.70	164.1	74.4	2.7	10.4	10.2	985	447	20.4	1970	893	30.6	2954	1340	40.8	3939	1787
5	P75	150	0.29	31.4	14.2	0.6	2.4	1.7	188	85	3.5	376	171	5.2	565	256	6.9	753	341
7	P75	225	0.43	43.9	19.9	0.9	3.4	2.6	263	120	5.2	527	239	7.8	790	359	10.4	1054	478
9	P75	300	0.58	56.5	25.6	1.2	4.4	3.5	339	154	6.9	677	307	10.4	1016	461	13.9	1355	615
11	P75	375	0.72	69.0	31.3	1.4	5.3	4.3	414	188	8.7	828	376	13.0	1242	563	17.4	1656	751
13	P75	450	0.87	81.5	37.0	1.7	6.3	5.2	489	222	10.4	979	444	15.6	1468	666	20.8	1957	888
15	P75	525	1.01	94.1	42.7	1.9	7.3	6.1	565	256	12.2	1129	512	18.2	1694	768	24.3	2258	1024
17	P75	600	1.16	106.6	48.4	2.2	8.2	6.9	640	290	13.9	1280	580	20.8	1919	871	27.8	2559	1161
19	P75	675	1.30	119.2	54.1	2.4	9.2	7.8	715	324	15.6	1430	649	23.5	2145	973	31.3	2860	1297
21	P75	750	1.45	131.7	59.7	2.7	10.2	8.7	790	359	17.4	1581	717	26.1	2371	1076	34.7	3161	1434
23	P75	825	1.59	144.3	65.4	2.9	11.2	9.6	866	393	19.1	1731	785	28.7	2597	1178	38.2	3463	1571
25	P75	900	1.74	156.8	71.1	3.2	12.1	10.4	941	427	20.8	1882	854	31.3	2823	1280	41.7	3764	1707
27	P75	975	1.88	169.4	76.8	3.5	13.1	11.3	1016	461	22.6	2032	922	33.9	3049	1383	45.2	4065	1844
29	P75	1050	2.03	181.9	82.5	3.7	14.1	12.2	1091	495	24.3	2183	990	36.5	3274	1485	48.6	4366	1980
31	P75	1125	2.17	194.5	88.2	4.0	15.0	13.0	1167	529	26.1	2333	1058	39.1	3500	1588	52.1	4667	2117
33	P75	1200	2.32	207.0	93.9	4.2	16.0	13.9	1242	563	27.8	2484	1127	41.7	3726	1690	55.6	4968	2253
7	P75E	225	0.43	44.8	20.3	1.0	3.7	2.6	269	122	5.2	537	244	7.8	806	366	10.4	1075	487
9	P75E	300	0.58	57.6	26.1	1.3	4.8	3.5	345	157	6.9	691	313	10.4	1036	470	13.9	1382	627
11	P75E	375	0.72	70.4	31.9	1.5	5.8	4.3	422	192	8.7	845	383	13.0	1267	575	17.4	1689	766
13	P75E	450	0.87	83.2	37.7	1.8	6.9	5.2	499	226	10.4	998	453	15.6	1497	679	20.8	1996	906
5	P85	170	0.33	34.3	15.6	0.6	2.3	2.0	206	93	3.9	412	187	5.9	617	280	7.9	823	373
7	P85	255	0.49	48.0	21.8	0.8	3.2	3.0	288	131	5.9	576	261	8.9	864	392	11.8	1152	523
9	P85	340	0.66	61.7	28.0	1.1	4.1	3.9	370	168	7.9	741	336	11.8	1111	504	15.8	1482	672
11	P85	425	0.82	75.4	34.2	1.3	5.0	4.9	453	205	9.8	905	411	14.8	1358	616	19.7	1811	821
13	P85	510	0.98	89.2	40.4	1.6	5.9	5.9	535	243	11.8	1070	485	17.7	1605	728	23.6	2140	971
15	P85	595	1.15	102.9	46.7	1.8	6.9	6.9	617	280	13.8	1235	560	20.7	1852	840	27.6	2469	1120
17	P85	680	1.31	116.6	52.9	2.1	7.8	7.9	700	317	15.8	1399	635	23.6	2099	952	31.5	2798	1269
19	P85	765	1.48	130.3	59.1	2.3	8.7	8.9	782	355	17.7	1564	709	26.6	2346	1064	35.4	3128	1419
21	P85	850	1.64	144.0	65.3	2.5	9.6	9.8	864	392	19.7	1728	784	29.5	2593	1176	39.4	3457	1568
23	P85	935	1.81	157.8	71.6	2.8	10.5	10.8	947	429	21.7	1893	859	32.5	2840	1288	43.3	3786	1717
25	P85	1020	1.97	171.5	77.8	3.0	11.4	11.8	1029	467	23.5	2058	933	35.4	3087	1400	47.2	4115	1867
27	P85	1105	2.13	185.2	84.0	3.3	12.3	12.8	1111	504	25.4	2222	1008	38.2	3333	1512	51.1	4445	2016
29	P85	1190	2.30	198.9	90.2	3.5	13.3	13.8	1193	541	27.2	2387	1083	41.0	3580	1624	55.0	4774	2165
31	P85	1275	2.46	212.6	96.4	3.7	14.2	14.8	1276	579	29.0	2552	1157	43.8	3827	1736	58.9	5103	2315
33	P85	1360	2.63	226.3	102.7	4.0	15.1	15.8	1358	616	31.5	2716	1232	46.6	4074	1848	62.8	5432	2464
7	P85E	255	0.49	51.0	23.1	1.0	3.9	3.0	306	139	5.9	612	278	8.9	918	416	11.8	1224	555
9	P85E	340	0.66	64.4	29.2	1.3	5.1	3.9	387	175	7.9	773	351	11.8	1160	526	15.8	1546	701
11	P85E	425	0.82	78.8	35.7	1.6	6.2	4.9	473	214	9.8	945	429	14.8	1418	643	19.7	1890	857
13	P85E	510	0.98	93.1	42.2	1.9	7.3	5.9	559	253	11.8	1117	507	17.7	1676	760	23.6	2235	1014
5	P90	180	0.35	34.1	15.5	0.6	2.1	2.1	30	14	4.2	409	186	6.3	614	278	8.3	818	371
7	P90	270	0.52	47.7	21.6	0.8	3.0	3.1	42	19	6.3	572							



Table 8, continued

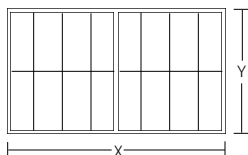
Plates Per Cell	Cell Type	6 Hour Capacity Ah	1 Cell				6 Cell			12 Cell			18 Cell			24 Cell			
			kWh	Weight lb	Weight kg	Volume Gal	Volume L	kWh	Weight lb	Weight kg	kWh	Weight lb	Weight kg	kWh	Weight lb	Weight kg	kWh	Weight lb	Weight kg
5	PH95	190	0.37	34.1	15.5	0.6	2.1	2.2	205	93	4.4	409	186	6.6	614	278	8.8	818	371
7	PH95	285	0.55	47.7	21.7	0.8	3.0	3.3	286	130	6.6	573	260	9.9	859	390	13.2	1146	520
9	PH95	380	0.73	61.4	27.8	1.0	3.9	4.4	368	167	8.8	736	334	13.2	1105	501	17.6	1473	668
11	PH95	475	0.92	75.0	34.0	1.2	4.7	5.5	450	204	11.0	900	408	16.5	1350	612	22.0	1800	817
13	PH95	570	1.10	88.6	40.2	1.5	5.6	6.6	532	241	13.2	1064	483	19.8	1596	724	26.4	2128	965
15	PH95	665	1.28	102.3	46.4	1.7	6.4	7.7	614	278	15.4	1227	557	23.1	1841	835	30.8	2455	1113
17	PH95	760	1.47	115.9	52.6	1.9	7.3	8.8	696	315	17.6	1391	631	26.4	2087	946	35.2	2782	1262
19	PH95	855	1.65	129.6	58.8	2.2	8.1	9.9	777	353	19.8	1555	705	29.7	2332	1058	39.6	3109	1410
21	PH95	950	1.83	143.2	65.0	2.4	9.0	11.0	859	390	22.0	1718	779	33.0	2578	1169	44.0	3437	1559
23	PH95	1045	2.02	156.8	71.1	2.6	9.9	12.1	941	427	24.2	1882	854	36.3	2823	1281	48.4	3764	1707
25	PH95	1140	2.20	170.5	77.3	2.8	10.7	13.2	1023	464	26.4	2046	928	39.6	3069	1392	52.8	4091	1856
27	PH95	1235	2.38	184.1	83.5	3.1	11.6	14.3	1105	501	28.6	2209	1002	42.9	3314	1503	57.2	4419	2004
29	PH95	1330	2.57	197.8	89.7	3.3	12.4	15.4	1187	538	30.8	2373	1076	46.2	3560	1615	61.6	4746	2153
31	PH95	1425	2.75	211.4	95.9	3.5	13.3	16.5	1268	575	33.0	2537	1151	49.5	3805	1726	66.0	5073	2301
33	PH95	1520	2.93	225.0	102.1	3.7	14.2	17.6	1350	612	35.2	2700	1225	52.8	4050	1837	70.4	5401	2450
5	P100	200	0.39	39.3	17.8	0.7	2.7	2.3	236	107	4.6	472	214	6.9	708	321	9.3	944	428
7	P100	300	0.58	55.1	25.0	1.0	3.7	3.5	330	150	6.9	661	300	10.4	991	450	13.9	1322	599
9	P100	400	0.77	70.8	32.1	1.3	4.8	4.6	425	193	9.3	850	385	13.9	1274	578	18.5	1699	771
11	P100	500	0.97	86.5	39.3	1.5	5.8	5.8	519	236	11.6	1038	471	17.4	1558	707	23.2	2077	942
13	P100	600	1.16	102.3	46.4	1.8	6.9	6.9	614	278	13.9	1227	557	20.8	1841	835	27.8	2454	1113
15	P100	700	1.35	118.0	53.5	2.1	8.0	8.1	708	321	16.2	1416	642	24.3	2124	963	32.4	2832	1285
17	P100	800	1.54	133.7	60.7	2.4	9.0	9.3	802	364	18.5	1605	728	27.8	2407	1092	37.1	3210	1456
19	P100	900	1.74	149.5	67.8	2.7	10.1	10.4	897	407	20.8	1794	814	31.3	2690	1220	41.7	3587	1627
21	P100	1000	1.93	165.2	74.9	2.9	11.1	11.6	991	450	23.2	1982	899	34.7	2974	1349	46.3	3965	1798
23	P100	1100	2.12	180.9	82.1	3.2	12.2	12.7	1086	492	25.5	2171	985	38.2	3257	1477	51.0	4342	1970
25	P100	1200	2.32	196.7	89.2	3.5	13.3	13.9	1180	535	27.8	2360	1070	41.7	3540	1606	55.6	4720	2141
27	P100	1300	2.51	212.4	96.3	3.8	14.3	15.1	1274	578	30.1	2549	1156	45.2	3823	1734	60.2	5098	2312
29	P100	1400	2.70	228.1	103.5	4.1	15.4	16.2	1369	621	32.4	2738	1242	48.6	4106	1863	64.9	5475	2483
31	P100	1500	2.90	243.9	110.6	4.3	16.4	17.4	1463	664	34.7	2926	1327	52.1	4390	1991	69.5	5853	2655
33	P100	1600	3.09	259.6	117.8	4.6	17.5	18.5	1558	707	37.1	3115	1413	55.6	4673	2120	74.1	6230	2826
5	P125	250	0.48	48.4	22.0	0.8	3.2	2.9	290	132	5.8	581	263	8.7	871	395	11.6	1162	527
7	P125	375	0.72	67.8	30.8	1.2	4.5	4.3	42	19	8.7	814	369	13.0	1220	554	17.4	1627	738
9	P125	500	0.97	87.1	39.5	1.5	5.7	5.8	54	24	11.6	1045	474	17.4	1568	711	23.2	2090	948
11	P125	625	1.21	106.5	48.3	1.9	7.0	7.2	66	30	14.5	1278	580	21.7	1917	870	29.0	2556	1159
13	P125	750	1.45	125.9	57.1	2.2	8.3	8.7	78	35	17.4	1511	685	26.1	2266	1028	34.7	3022	1371
15	P125	875	1.69	145.2	65.9	2.5	9.6	10.1	90	41	20.3	1742	790	30.4	2614	1186	40.5	3485	1581
17	P125	1000	1.93	164.6	74.7	2.9	10.8	11.6	102	46	23.2	1975	896	34.7	2963	1344	46.3	3950	1792
19	P125	1125	2.17	183.9	83.4	3.2	12.1	13.0	114	52	26.1	2207	1001	39.1	3310	1501	52.1	4414	2002
21	P125	1250	2.41	203.3	92.2	3.5	13.4	14.5	126	57	29.0	2440	1107	43.4	3659	1660	57.9	4879	2213
23	P125	1375	2.65	222.7	101.0	3.9	14.7	15.9	138	63	31.9	2672	1212	47.8	4009	1818	63.7	5345	2424
25	P125	1500	2.90	242.0	109.8	4.2	15.9	17.4	150	68	34.7	2904	1317	52.1	4356	1976	69.5	5808	2634
5	PH137	274	0.53	48.4	22.0	0.8	3.2	3.2	290	132	6.3	581	263	9.5	871	395	12.7	1162	527
7	PH137	411	0.79	67.8	30.7	1.2	4.5	4.8	407	184	9.5	813	369	14.3	1220	553	19.0	1626	738
9	PH137	548	1.06	87.1	39.5	1.5	5.7	6.3	523	237	12.7	1046	474	19.0	1568	711	25.4	2091	948
11	PH137	685	1.32	106.5	48.3	1.9	7.0	7.9	639	290	15.9	1278	580	23.8	1917	869	31.7	2556	1159
13	PH137	822	1.59	125.9	57.1	2.2	8.3	9.5	755	343	19.0	1510	685	28.6	2265	1028	38.1	3020	1370
15	PH137	959	1.85	145.2	65.9	2.5	9.6	11.1	871	395	22.2	1743	790	33.3	2614	1186	44.4	3485	1581
17	PH137	1096	2.12	164.6	74.6	2.9	10.8	12.7	987	448	25.4	1975	896	38.1	2962	1344	50.8	3950	1792
19	PH137	1233	2.38	183.9	83.4	3.2	12.1	14.3	1104	501	28.6	2207	1001	42.8	3311	1502	57.1	4414	2002
21	PH137	1370	2.64	203.3	92.2	3.5	13.4	15.9	1220	553	31.7	2440	1107	47.6	3659	1660	63.5	4879	2213
23	PH137	1507	2.91	222.7	101.0	3.9	14.7	17.5	1336	606	34.9	2672	1212	52.4	4008	1818	69.8	5344	2424
25	PH137	1644	3.17	242.0	109.8	4.2	15.9	19.0	1452	659	38.1	2904	1317	57.1	4356	1976	76.2	5808	2635
27	PH137	1781	3.44	261.4	118.6	4.5	17.2	20.6	1568	711	41.3	3137	1423	61.9	4705	2134	82.5	6273	2845
29	PH137	1918	3.70	280.7	127.3	4.9	18.5	22.2	1684	764	44.4	3369	1528	66.6	5053	2292	88.9	6738	3056
31	PH137	2055	3.97	300.1	136.1	5.2	19.8	23.8	1801	817	47.6	3601	1634	71.4	5402	2450	95.2	7203	3267
33	PH137	2192	4.23	319.5	144.9	5.6	21.0	25.4	1917	869	50.8	3834	1739	76.2	5750	2608	101.6	7667	3478
9	P150	600	1.16	112.3	50.9	1.9	7.1	6.9	674	306	13.9	1347	611	20.8	2021	917	27.8	2695	1222
11	P150	750	1.45	137.2	62.2	2.3	8.7	8.7	823	373	17.4	1647	747	26.1	2470	1120	34.7	3293	1494
13	P150	900	1.74	162.2	73.6	2.7	10.3	10.4	973	441	20.8	1946	883	31.3	2919	1324	41.7	3892	1766
15	P150	1050	2.03	187.1	84.9	3.1	11.8	12.2	1123	509	24.3	2246	1019	36.5	3368	1528	48.6	4491	2037
17	P150	1200	2.32	212.1	96.2	3.5	13.4	13.9	1272	577	27.8	2545	1154	41.7	3817	1732	55.6	5090	2309
19	P150	1350	2.61	237.0	107.5	4.0	15.0	15.6	1422	645	31.3	2844	1290	46.9	4267	1935	62.5	5689	2580
21	P150	1500	2.90	262.0	118.8	4.4	16.6	17.4	1572	713	34.7	3144	1426	52.1	4716	2139	69.5	6288	2852
23	P150	1650	3.19	286.9	130.1	4.8	18.2	19.1	1722	781	38.2	3443	1562	57.3	5165	2343	76.4	6886	3124
25	P150	1800	3.47	311.9	141.5	5.2	19.7	20.8	1871	849	41.7	3743	1698	62.5	5614	2546	83.4	7485	3395
31	P150	2250	4.34	386.7	175.4	6.5	24.5	26.1	2320	1053	52.1	4641	2105	78.2	6961	3158	104.2	9282	4210
9	P170	680	1.31	119.5	54.2	1.8	6.8	7.9	717	325	15.8	1434	650	23.6	2150	975	31.5	2867	1301
11	P170	850	1.64	146.0	66.2	2.2	8.3	9.8	876	397	19.7	1752	795	29.5	2628</				

## Custom Sizing Information for Industrial Batteries

### Table 9

#### Formula for approximating battery dimensions X and Y

- Determine number and size of cells and arrange into layout.
- Multiply number of cells by dimensions L & W and round up to nearest 1/16.
- Add tray wall and partition thickness.  
Example 12 P75-13 battery, 2 x 6 short arrangement  
 $X = 6 \times 5.03 = 30.18 + (2 \times .19) + .13 = 30.69$   
 $Y = 2 \times 6.22 = 12.44 + (2 \times .19) = 12.82$



### Table 10

#### Cell Dimensions "L" (Length) and "W" (Width)

No. of Plates IND	Length "L"	Width "W"	
		Narrow	Wide
5	2.03	6.22	—
7	2.78	6.22	—
9	3.53	6.22	8.65
11	4.28	6.22	8.65
13	5.03	6.22	8.65
15	5.78	6.28	8.65
17	6.53	6.28	8.65
19	7.28	6.28	8.65
21	8.03	6.28	8.65
23	8.78	6.28	8.65
25	9.53	6.28	8.65
27	10.28	6.28	—
29	11.03	6.28	—
31	11.78	6.28	8.65
33	12.53	6.28	—

### Table 11

#### Tray Material Thickness

Battery Weight (lbs)	Thickness (in)	
	Bottom and Sides	Partitions
0 — 650	.13	.13
651 — 1650	.19	.13
1651 — 4500	.25	.13

#### OPTIONS:

- Batteries supplied "dry charged" without electrolyte.
- Batteries supplied "dry charged" with electrolyte.
- Batteries, commercial export packing.
- Batteries with two sets of leads.
- Batteries ordered with trays over one plate size larger than normal.
- EE (spark-proof) batteries with cover.
- EX (explosion-proof, Class 1 Group D) batteries.
- EX (explosion-proof, Class II Group G) batteries.



**Interstate PowerCare  
Corporate Office**  
12770 Merit Drive, Suite 1000  
Dallas, Texas 75251  
Toll Free (866) 210-6679  
www.powercare.net

## Parts and Accessories

### Table 12 — Available Connectors

PowerCare Part Number	Anderson Part Number	Color	Voltage Key	Current Rating	Charger 8-Hr. AH Rating
PC-689	SB-6319***	Gray	Optional	50	Up to 255
PC-311	SB-6325G1**	Gray	36	175	Up to 830
PC-312	SB-6326G1**	Blue	48	175	Up to 830
PC-313	SB-6327G1**	Orange	18	175	Up to 830
PC-314	SB-6328G1**	Yellow	12	175	Up to 830
PC-315	SB-6329G1**	Red	24	175	Up to 830
PC-411	SB-6320G1	Gray	36	350	Up to 1050*
PC-416	SB-6321G1	Blue	48	350	Up to 1050*
PC-421	SB-6322G1	Red	24	350	Up to 1050*
PC-426	SB-6323G1	Yellow	12	350	Up to 1050*
PC-413	SB-6320G2	Gray	36	350	1051 to 1600
PC-418	SB-6321G2	Blue	48	350	1051 to 1600
PC-423	SB-6322G2	Red	24	350	1051 to 1600
PC-428	SB-6323G2	Yellow	12	350	1051 to 1600

\*Must use appropriate PR-413, 423 or 428 if 3/0 or 4/0 cable is specified.

\*\*Clamp Set #945 may be ordered with this part.

\*\*\*Clamp Set #990 may be ordered with this part.



EC Charging Half



EC Mounting Half



EC Locking Half



SB



YC Receptacle



YC Plug

### Table 13 — Cables

Ah Capacity of Battery	Std. Cable Size "K"	Std. 90 C
To 480	2 AWG	SB-175
To 600	1 AWG	SB-175
To 750	0 AWG	SB-175
To 940	00 AWG	SB-350
To 1150	000 AWG	SB-350

PowerCare Part	No. Anderson Part	Rating	Description
PC-346	923	175 Amp	Manual Release
PC-463	919	350 Amp	Manual Release
PC-661 & PC-660	996G1 & 995G2	350 Amp	Clamp and "A" Frame Handle

- NOTE: 1. Cable and connector size based upon current requirements of industrial truck and charging equipment.  
2. Gray SB Anderson connectors supplied when ordering SB type unless otherwise specified.  
3. Other types are available as optional equipment on applicable battery sizes. Consult headquarters.

Any data, descriptions or specifications presented herein are subject to revision by PowerCare and Service Solutions, Inc. without notice. While such information is believed to be accurate as indicated herein, PowerCare and Service Solutions, Inc. makes no warranty and hereby disclaims all warranties, express or implied, with regard to the accuracy or completeness of such information. Further, because the product(s) featured herein may be used under conditions beyond its control, PowerCare and Service Solutions, Inc. hereby disclaims all warranties, either express or implied, concerning the fitness or suitability of such product(s) for any particular use or in any specific application or arising from any course of dealing or usage of trade. The user is solely responsible for determining the suitability of the product(s) featured herein for user's intended purpose and in user's specific application.

