

OPzS

Lead-Acid Tubular Plate Batteries

Dimensional and Electrical Data



HZL
BATTERIES

Lead-Acid Tubular Plate Batteries



The OPzS Series tubular plate lead-acid battery is designed for maximum life and minimum maintenance. Their excellent cycle life and deep discharge capability make them perfectly suited for applications such as emergency lighting, data processing systems and alternative energy storage.

A large electrolyte reserve extends watering intervals, reducing maintenance costs.

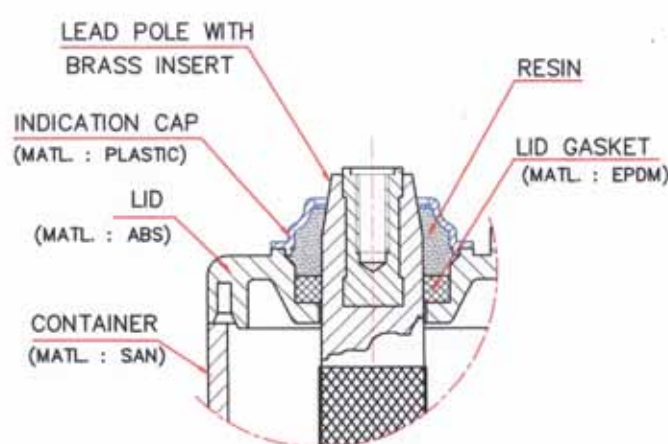
Jars of high-impact SAN are permanently bonded to ABS lids to form a leak-proof seal that lasts the entire life of the battery.

Each cell is fitted with a flame arresting vent cap to protect against explosions.

Applications

- Telecommunications
- Power generation
- Signaling and control systems
- Emergency lighting
- Data processing systems
- Energy storage for wind or photovoltaic
- UPS

Post Construction



OPzS Benefits

- Low gassing rate
- Low self-discharge
- Long life
- Large electrolyte reserve
- Excellent deep-discharge capability
- Excellent cycle life

Governing Standards

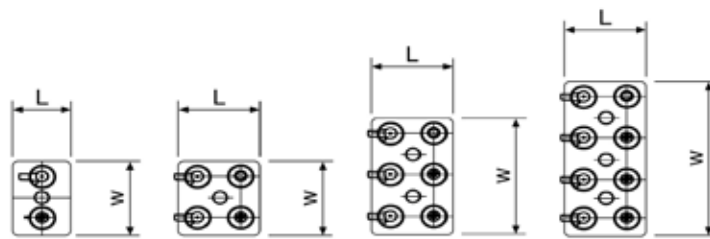
- DIN 40736-1
- DIN 43539-5
- IEC 60896-11
- IEC 61427

Technical Specifications

Nominal Voltage (V)	2
Float Voltage (V)	2.23
Equalize Voltage (V)	2.40
Self-Discharge	<3% per month
Specific Gravity of Electrolyte	1.240 ± .01
Container Material	Transparent SAN
Lid Material	ABS
Separator	Microporous, ribbed PE
Terminal Post	Lead with brass insert - female
Intercell Connector	Insulated copper
Connection Hardware	Stainless steel
Vent Cap	Flame Arrestor

Physical Data

Cell Type	Capacity (C ₁₀ Ah)	Length (in.)	Width (in.)	Height (in.)	Electrolyte Volume (gal.)	Weight (lbs.)	
						Dry	Filled
20PzS100	113	4.1	8.1	16.9	0.91	20.5	31.8
30PzS150	170	4.1	8.1	16.9	0.78	26.2	35.9
40PzS200	226	4.1	8.1	16.9	0.71	29.3	38.4
50PzS250	283	4.9	8.1	16.9	0.87	35.1	45.9
60PzS300	340	5.7	8.1	16.9	1.04	40.6	53.6
50PzS350	394	4.9	8.1	21.5	1.21	46.7	61.7
60PzS420	473	5.7	8.1	21.5	1.43	54.2	72.1
70PzS490	552	6.5	8.1	21.5	1.67	62.2	82.9
60PzS600	680	5.7	8.1	28.3	1.99	73.9	98.6
70PzS700	793	8.3	7.5	28.3	2.77	94.6	129.0
80PzS800	907	8.3	7.5	28.3	2.58	102.8	134.7
90PzS900	1020	8.3	9.2	28.3	3.40	116.2	158.5
100PzS1000	1133	8.3	9.2	28.3	3.20	124.1	164.1
110PzS1100	1247	8.3	10.8	28.3	4.02	138.5	188.5
120PzS1200	1360	8.3	10.8	28.3	3.83	146.2	193.8
110PzS1375	1488	8.3	10.8	34.3	5.11	169.3	232.8
120PzS1500	1623	8.3	10.8	34.3	4.87	179.5	240.1
140PzS1750	1894	8.4	15.7	33.3	7.62	220.3	315.1
150PzS1875	2029	8.4	15.7	33.3	7.38	232.4	324.1
160PzS2000	2164	8.4	15.7	33.3	7.14	242.6	331.4
180PzS2250	2435	8.3	19.2	33.3	9.26	282.0	397.1
200PzS2500	2705	8.3	19.2	33.3	8.81	302.7	412.3
220PzS2750	2976	8.3	22.7	33.3	10.93	336.0	472.1
240PzS3000	3246	8.3	22.7	33.3	10.45	356.3	486.4



20PzS100
30PzS150
40PzS200
50PzS250
60PzS300
50PzS350
60PzS420
70PzS490
60PzS600

70PzS700
80PzS800
90PzS900
100PzS1000
110PzS1100
120PzS1200
110PzS1375
120PzS1500

140PzS1750
150PzS1875
16PzS2000

180PzS2250
200PzS2500
220PzS2750
240PzS3000

Discharge Data to 1.75V

Available current at 77°F with 1.240 Specific Gravity Electrolyte

Cell Type	Capacity (C ₁₀ Ah)	Hours							Minutes			
		20	10	8	5	3	2	1	30	15	10	5
20PzS100	113	6.6	11.5	13.8	19.4	28.8	38.9	55.0	77.9	100	110	111
30PzS150	170	10.0	17.3	20.7	29.2	43.1	58.3	82.6	117	151	165	166
40PzS200	226	13.4	23.0	27.6	38.9	57.5	77.8	110	156	201	221	222
50PzS250	283	16.7	28.8	34.5	48.6	71.9	97.2	138	195	251	276	277
60PzS300	340	20.0	34.6	41.4	58.3	86.3	117	165	234	301	331	333
50PzS350	394	23.3	39.7	47.9	67.5	101	135	191	249	298	318	322
60PzS420	473	28.0	47.6	57.5	81.0	124	162	229	299	358	381	386
70PzS490	552	32.6	55.6	67.1	94.5	142	189	267	349	417	445	451
60PzS600	680	40.1	69.0	80.5	112	167	221	310	387	443	469	471
70PzS700	793	46.8	80.5	93.9	131	194	257	361	451	517	547	550
80PzS800	907	53.5	92.0	107	150	222	294	413	515	591	625	628
90PzS900	1020	60.2	104	121	168	250	331	465	580	665	703	707
100PzS1000	1133	66.8	115	134	187	278	368	516	644	739	781	786
110PzS1100	1247	73.5	127	148	206	305	404	568	709	813	859	864
120PzS1200	1360	80.2	138	161	224	333	441	620	773	887	937	943
110PzS1375	1488	88.6	154	182	260	347	498	643	773	876	907	911
120PzS1500	1623	96.6	168	198	284	379	544	702	844	956	990	993
140PzS1750	1894	113	196	231	332	442	634	818	984	1115	1155	1159
150PzS1875	2029	121	210	248	355	473	679	877	1055	1195	1237	1242
160PzS2000	2164	129	224	264	379	505	725	935	1125	1274	1320	1325
180PzS2250	2435	145	251	297	426	568	815	1052	1266	1434	1485	1490
200PzS2500	2705	161	279	330	474	631	906	1169	1406	1593	1650	1656
220PzS2750	2976	177	307	363	521	694	997	1286	1547	1752	1814	1821
240PzS3000	3246	193	335	396	568	758	1087	1403	1688	1912	1979	1987

Discharge Data to 1.67V

Available current at 77°F with 1.240 Specific Gravity Electrolyte

Cell Type	Capacity (C ₁₀ Ah)	Hours							Minutes			
		20	10	8	5	3	2	1	30	15	10	5
20PzS100	113	6.9	11.8	14.1	20.1	29.5	40.6	60.9	88.3	117	132	132
30PzS150	170	10.2	17.6	21.1	30.2	44.3	61.0	91.3	133	175	198	199
40PzS200	226	13.5	23.3	27.8	40.0	59.0	81.3	122	177	234	264	265
50PzS250	283	16.9	29.1	34.8	49.8	73.8	102	152	221	292	330	331
60PzS300	340	20.3	34.9	41.8	59.8	88.6	122	183	265	351	396	397
50PzS350	394	23.6	39.9	48.3	68.0	102	141	218	295	365	395	398
60PzS420	473	28.3	47.9	58.0	81.6	123	169	261	354	438	474	478
70PzS490	552	33.0	55.9	67.6	95.2	143	197	305	413	511	553	557
60PzS600	680	40.3	69.3	81.0	113	169	231	361	482	559	565	568
70PzS700	793	47.0	80.9	94.5	132	197	269	421	563	652	659	663
80PzS800	907	53.7	92.4	108	151	225	307	481	643	745	753	757
90PzS900	1020	60.5	104	122	170	253	346	542	724	838	847	852
100PzS1000	1133	67.2	116	135	188	282	384	602	804	931	941	947
110PzS1100	1247	73.9	127	149	207	310	423	662	884	1024	1035	1041
120PzS1200	1360	80.6	139	162	226	338	461	722	965	1117	1129	1136
110PzS1375	1488	89.3	156	185	266	362	519	770	981	1140	1193	1194
120PzS1500	1623	97.4	170	202	291	395	566	840	1070	1244	1301	1303
140PzS1750	1894	114	199	236	339	461	660	980	1248	1451	1518	1520
150PzS1875	2029	122	213	253	363	494	708	1050	1337	1555	1626	1628
160PzS2000	2164	130	227	270	387	527	755	1120	1427	1658	1735	1737
180PzS2250	2435	146	255	303	436	593	849	1260	1605	1866	1952	1954
200PzS2500	2705	162	284	337	484	659	943	1400	1783	2073	2169	2171
220PzS2750	2976	179	312	371	533	725	1038	1540	1961	2280	2385	2388
240PzS3000	3246	195	340	404	581	791	1132	1680	2140	2488	2602	2605

Discharge Data to 1.81V

Available current at 77°F with 1.240 Specific Gravity Electrolyte

Cell Type	Capacity (C ₁₀ Ah)	Hours							Minutes			
		20	10	8	5	3	2	1	30	15	10	5
20PzS100	113	6.5	11.3	13.5	18.8	27.7	37.0	49.8	68.6	85.0	92.6	93.1
30PzS150	170	9.9	17.0	20.3	28.3	41.6	55.4	74.7	103	128	139	140
40PzS200	226	13.2	22.6	27.0	37.7	55.4	73.9	99.6	137	170	185	186
50PzS250	283	16.5	28.3	33.8	47.1	69.3	92.4	125	172	213	231	233
60PzS300	340	19.8	34.0	40.6	56.5	83.2	111	149	206	255	278	279
50PzS350	394	23.1	39.4	47.0	65.4	96.2	128	173	218	253	266	267
60PzS420	473	27.7	47.3	56.4	78.5	115	154	207	261	303	319	321
70PzS490	552	32.3	55.2	65.8	91.6	135	179	242	305	354	372	374
60PzS600	680	39.6	68.0	78.9	109	158	210	280	330	373	393	395
70PzS700	793	46.2	79.3	92.1	127	185	245	327	385	435	458	461
80PzS800	907	52.8	90.7	105	145	211	280	374	440	497	523	527
90PzS900	1020	59.4	102	118	163	238	315	421	495	560	589	592
100PzS1000	1133	66.0	113	132	181	264	350	467	550	622	654	658
110PzS1100	1247	72.6	125	145	199	290	385	514	605	684	720	724
120PzS1200	1360	79.2	136	158	217	317	419	561	660	746	785	790
110PzS1375	1488	86.9	149	174	247	314	449	581	646	717	739	740
120PzS1500	1623	94.8	162	190	269	342	490	634	705	782	806	808
140PzS1750	1894	111	189	221	314	399	571	740	823	913	941	942
150PzS1875	2029	119	203	237	337	428	612	793	882	978	1008	1010
160PzS2000	2164	126	216	253	359	457	653	846	940	1043	1075	1077
180PzS2250	2435	142	244	284	404	514	735	951	1058	1173	1209	1212
200PzS2500	2705	158	271	316	449	571	816	1057	1175	1304	1344	1346
220PzS2750	2976	174	298	347	494	628	898	1163	1293	1434	1478	1481
240PzS3000	3246	190	325	379	538	685	979	1268	1410	1565	1613	1616

For all your DC backup and power requirements, ask your local sales person about our full range of **Lead-Acid**, **Nickel-Cadmium** and **advanced technology** batteries. All of our products are manufactured in facilities that are certified to meet ISO 9001 and 14001 standards as well as OHSAS 18001 safety standard.

Products



- Nickel Cadmium
 - Pocket Plate
 - Sintered / PBE
- Vented Lead Acid
 - OPzS (tubular)
 - Pasted Plate
- VRLA
 - Gel
 - AGM
- Battery Chargers
- Battery Racks and Cabinets

Key Markets

- Electric and gas utilities
- Waste water treatment
- Oil / Gas / Petrochem
- Industrial process control
- UPS / Data center
- Telecom
- Railway
- Aviation
- Photovoltaic / Wind
- Military





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