



## C&D Tubular GEL (OPzV) Series For Standby & Cyclic Applications

C&D Tubular GEL (OPzV) Series range of valve regulated lead acid stationary batteries combine the benefits of recombination technology (i.e. virtually no maintenance due to very low gas emissions) plus the advantages of conventional vented batteries with positive tubular plates (i.e. long life and excellent cycling capability).



### Applications

- Telecommunication systems
- Uninterruptible power systems
- Electric power systems
- Control equipment
- Medical equipment
- Fire & security systems
- Solar systems
- Wind energy systems
- Other standby, cyclic and outdoor applications

### Features and Benefits

- Design life: 15years
- Tubular Positive Plate – special grid construction, pressure cast from antimony free alloy, with highly porous gauntlets that retain the active material.
- Pasted negative plate – service lives consistent with the positive plates.
- Separators – extremely high porosity and low internal resistance.
- Electrolyte – Gel structure.
- Containers and lids – made of plastic (ABS) material. Also available in ABS flame retardant material as an option ( according to IEC 707 FV0)
- Cells are normally installed in an upright position on steel stands
- One way relief valve – opens at low pressure and is fitted with a flame arrestor device.

### Specifications

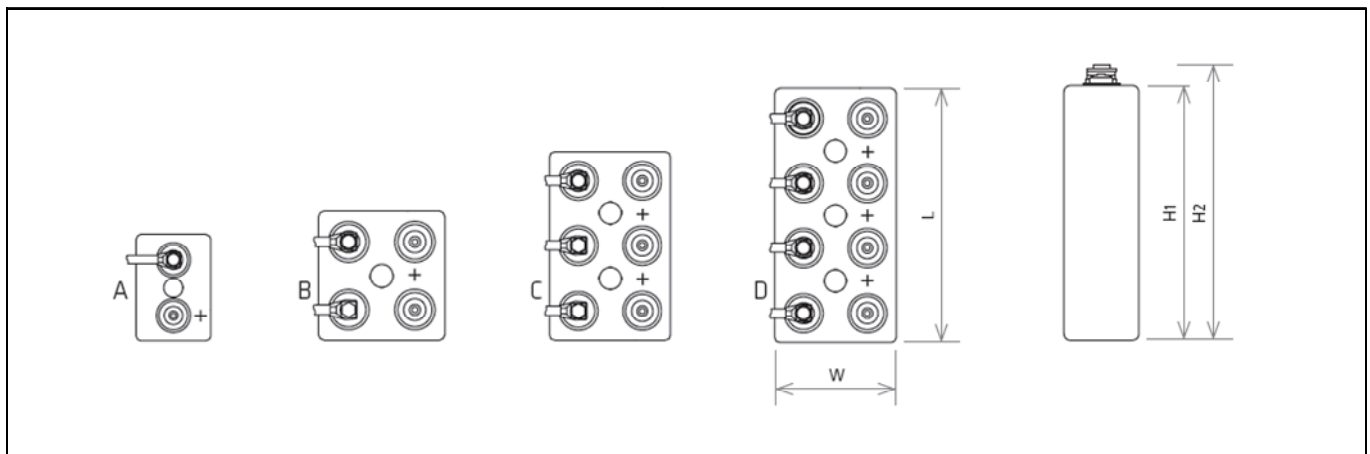
Model	V	Nominal Capacity (C10,1.80V@20°C)	Dimensions/mm (L*W*H*Total Height)				Weight/ Kg	Terminal Type (Bolt)	Resistance/ mΩ
C&D 2-200T GEL	2	200	103	206	354	380	19	M10	1.22
C&D 2-250T GEL	2	250	124	206	354	380	23	M10	0.98
C&D 2-300T GEL	2	300	145	206	354	380	28	M10	0.85
C&D 2-350T GEL	2	350	124	206	471	496	31	M10	0.75
C&D 2-420T GEL	2	420	145	206	471	496	36	M10	0.61
C&D 2-490T GEL	2	490	166	206	471	496	41	M10	0.52
C&D 2-600T GEL	2	600	145	206	643	668	49	M10	0.51
C&D 2-800T GEL	2	800	210	191	664	669	65	M10	0.38
C&D 2-1000T GEL	2	1000	210	233	646	671	80	M10	0.30
C&D 2-1200T GEL	2	1200	210	275	665	670	93	M10	0.26
C&D 2-1500T GEL	2	1500	210	275	796	821	115	M10	0.23
C&D 2-2000T GEL	2	2000	214	399	771	796	155	M10	0.17
C&D 2-2500T GEL	2	2500	214	487	769	794	200	M10	0.14
C&D 2-3000T GEL	2	3000	214	576	771	796	235	M10	0.12

\*All dimensions are in mm. All dimensions are for reference only. Contact a C&D representative for complete dimensional information

## Specifications

<b>Operating Temperature Range with temperature compensation</b>	Discharge: -40°F (-40°C) to +160°F (71°C) Charge: -10°F (-23°C) to +140°F (60°C)
<b>Nominal Operating Temperature Range</b>	+74°F(23°C) to +80°F (27°C)
<b>Recommended Maximum Charging Current Limit</b>	C/2
<b>Boost recharge</b>	Maximum voltage of 2.35 - 2.40 v/cell with a maximum current of 0.25 C10(A)
<b>Float Voltage</b>	Standby use 2.25 V/Cell
<b>Self Discharge</b>	Approx. 2% per month at 20°C

## Product Dimensions



Model	L	W	H1	H2	Pict.	Model	L	W	H1	H2	Pict.
C&D 2-200T GEL	103	206	354	380	A	C&D 2-800T GEL	210	191	664	669	B
C&D 2-250T GEL	124	206	354	380	A	C&D 2-1000T GEL	210	233	646	671	B
C&D 2-300T GEL	145	206	354	380	A	C&D 2-1200T GEL	210	275	665	670	B
C&D 2-350T GEL	124	206	471	496	A	C&D 2-1500T GEL	210	275	796	821	B
C&D 2-420T GEL	145	206	471	496	A	C&D 2-2000T GEL	214	399	771	796	C
C&D 2-490T GEL	166	206	471	496	A	C&D 2-2500T GEL	214	487	769	794	D
C&D 2-600T GEL	145	206	643	668	A	C&D 2-3000T GEL	214	576	771	796	D

\*All dimensions in inches (mm). All dimensions are for reference only. Contact a C&D Representative for complete dimension information.

**Constant Power Discharge Table – Watts Per Unit @ 20°C(68°F)**

1.90 EPV	15min	30min	1 h	2 h	3 h	4 h	5 h	6 h	8h	10 h	20 h
C&D 2-200T GEL	238	198	146	99	76	63	53	47	37	32	17
C&D 2-250T GEL	278	239	180	123	96	79	67	58	47	40	23
C&D 2-300T GEL	303	265	209	147	115	95	80	70	56	48	28
C&D 2-350T GEL	316	279	213	157	123	104	90	79	65	56	33
C&D 2-420T GEL	329	301	244	182	148	125	108	95	78	67	40
C&D 2-490T GEL	344	321	272	212	172	145	126	111	91	78	46
C&D 2-600T GEL	396	370	330	261	212	178	154	136	112	96	56
C&D 2-800T GEL	603	551	468	347	281	237	206	181	149	128	75
C&D 2-1000T GEL	716	679	585	434	351	298	257	227	186	160	94
C&D 2-1200T GEL	778	721	637	508	419	356	307	271	222	192	113
C&D 2-1500T GEL	814	773	710	571	476	408	358	322	271	230	133
C&D 2-2000T GEL	1047	1030	971	760	633	545	478	430	361	307	177
C&D 2-2500T GEL	1309	1288	1214	951	792	681	597	537	450	384	221
C&D 2-3000T GEL	1570	1545	1456	1141	949	817	717	644	542	461	265

1.85 EPV	15min	30min	1 h	2 h	3 h	4 h	5 h	6 h	8h	10 h	20 h
C&D 2-200T GEL	311	245	174	116	87	71	61	53	43	36	20
C&D 2-250T GEL	364	294	217	143	109	89	76	67	53	45	26
C&D 2-300T GEL	412	342	253	172	131	106	91	80	64	54	31
C&D 2-350T GEL	429	354	264	191	146	122	105	92	75	63	37
C&D 2-420T GEL	457	391	307	223	175	146	126	111	90	76	44
C&D 2-490T GEL	483	427	348	259	204	170	147	129	105	89	52
C&D 2-600T GEL	558	509	414	318	250	209	180	158	129	109	63
C&D 2-800T GEL	871	732	580	424	332	278	239	210	172	145	84
C&D 2-1000T GEL	1033	915	725	530	416	347	300	264	215	181	105
C&D 2-1200T GEL	1130	1022	828	625	500	418	360	317	258	218	126
C&D 2-1500T GEL	1164	1072	916	715	582	499	433	386	314	263	151
C&D 2-2000T GEL	1473	1430	1221	954	774	664	578	513	419	352	202
C&D 2-2500T GEL	1843	1787	1526	1192	969	831	722	643	524	439	251
C&D 2-3000T GEL	2210	2145	1831	1431	1161	996	867	770	626	527	302

1.80 EPV	15min	30min	1 h	2 h	3 h	4 h	5 h	6 h	8h	10 h	20 h
C&D 2-200T GEL	368	281	190	125	90	73	64	56	46	39	22
C&D 2-250T GEL	428	338	245	158	113	91	80	70	58	49	28
C&D 2-300T GEL	492	393	285	188	135	110	96	84	69	59	34
C&D 2-350T GEL	507	407	306	220	154	129	114	100	82	68	40
C&D 2-420T GEL	560	466	363	251	188	155	137	120	98	82	47
C&D 2-490T GEL	600	513	407	294	218	181	159	140	114	96	55
C&D 2-600T GEL	682	612	492	359	265	221	193	171	140	117	68
C&D 2-800T GEL	1059	893	689	480	353	296	261	228	187	157	90
C&D 2-1000T GEL	1269	1092	862	603	449	373	325	285	232	196	113
C&D 2-1200T GEL	1395	1223	983	721	535	448	390	342	279	240	136
C&D 2-1500T GEL	1477	1364	1160	881	664	563	497	437	352	293	167
C&D 2-2000T GEL	1969	1819	1546	1173	867	750	662	582	469	391	221
C&D 2-2500T GEL	2461	2273	1933	1467	1121	938	775	707	586	491	278
C&D 2-3000T GEL	2953	2728	2320	1760	1318	1124	946	855	703	587	333

1.75 EPV	15min	30min	1 h	2 h	3 h	4 h	5 h	6 h	8h	10 h	20 h
C&D 2-200T GEL	413	301	186	127	93	77	65	57	46	39	22
C&D 2-250T GEL	472	357	235	159	117	96	81	71	58	49	28
C&D 2-300T GEL	544	429	279	192	140	115	98	85	69	58	34
C&D 2-350T GEL	577	460	319	223	161	136	116	101	82	69	40
C&D 2-420T GEL	640	525	379	262	196	163	139	121	98	82	48
C&D 2-490T GEL	691	579	443	306	229	189	162	141	115	96	55
C&D 2-600T GEL	789	693	541	375	279	232	198	172	141	117	68
C&D 2-800T GEL	1247	990	741	500	372	309	264	230	188	157	91
C&D 2-1000T GEL	1479	1238	921	629	466	391	330	287	233	196	113
C&D 2-1200T GEL	1625	1391	1085	751	559	470	398	345	280	234	136
C&D 2-1500T GEL	1791	1575	1273	923	693	590	505	439	353	295	167
C&D 2-2000T GEL	2388	2100	1697	1231	924	787	673	587	471	394	223
C&D 2-2500T GEL	2985	2625	2121	1537	1154	983	840	734	590	493	279
C&D 2-3000T GEL	3582	3150	2546	1845	1385	1161	970	871	708	590	334

1.70 EPV	15min	30min	1 h	2 h	3 h	4 h	5 h	6 h	8h	10 h	20 h
C&D 2-200T GEL	450	319	188	129	96	77	66	57	46	39	21
C&D 2-250T GEL	510	381	236	162	120	97	82	72	58	49	27
C&D 2-300T GEL	594	458	281	195	144	116	99	86	69	59	33
C&D 2-350T GEL	639	493	326	230	170	137	117	102	82	69	39
C&D 2-420T GEL	712	575	385	272	203	165	140	122	99	82	47
C&D 2-490T GEL	771	641	449	316	238	192	164	142	115	96	54
C&D 2-600T GEL	896	764	549	388	292	235	201	174	141	118	67
C&D 2-800T GEL	1392	1097	746	516	387	313	267	232	188	157	89
C&D 2-1000T GEL	1649	1371	933	648	489	397	334	290	234	195	111
C&D 2-1200T GEL	1819	1553	1101	775	577	475	402	349	280	235	133
C&D 2-1500T GEL	2012	1770	1297	955	731	596	511	445	354	296	164
C&D 2-2000T GEL	2682	2360	1730	1275	974	796	679	593	471	395	219
C&D 2-2500T GEL	3354	2951	2162	1593	1218	995	850	742	590	493	272
C&D 2-3000T GEL	4024	3541	2595	1912	1461	1194	1019	889	707	592	327

1.65 EPV	15min	30min	1 h	2 h	3 h	4 h	5 h	6 h	8h	10 h	20 h
C&D 2-200T GEL	484	328	203	130	96	77	65	57	46	39	21
C&D 2-250T GEL	535	393	255	163	120	97	82	71	58	48	27
C&D 2-300T GEL	628	472	307	196	144	116	99	86	69	58	33
C&D 2-350T GEL	686	511	351	231	170	137	117	101	82	68	38
C&D 2-420T GEL	782	613	419	274	204	165	140	122	98	82	46
C&D 2-490T GEL	851	689	489	320	239	192	163	142	114	96	54
C&D 2-600T GEL	982	821	594	391	292	236	201	174	140	117	66
C&D 2-800T GEL	1538	1159	821	521	389	313	267	231	187	156	88
C&D 2-1000T GEL	1810	1448	1008	656	491	396	334	289	232	195	110
C&D 2-1200T GEL	2018	1684	1217	783	580	475	399	347	279	235	132
C&D 2-1500T GEL	2241	1944	1445	968	732	597	509	444	352	295	162
C&D 2-2000T GEL	2988	2592	1927	1290	976	796	678	591	470	392	216
C&D 2-2500T GEL	3736	3240	2408	1613	1221	995	849	740	586	490	271
C&D 2-3000T GEL	4482	3888	2890	1937	1465	1192	1018	887	703	588	324

**Constant Current Discharge Table – Amps @ 20°C(68°F)**

1.90 EPV	15min	30min	1 h	2 h	3 h	4 h	5 h	6 h	8h	10 h	20 h
C&D 2-200T GEL	125	104	76	51.4	39.4	32.4	27.4	23.9	19.2	16.1	8.85
C&D 2-250T GEL	146	125	94	63.5	49.3	40.5	34.3	29.9	24	20.1	11.6
C&D 2-300T GEL	159	139	109	76	59.1	48.6	41.1	35.9	28.8	24.2	14
C&D 2-350T GEL	166	146	111	82	64	53	46	41	33	28	17
C&D 2-420T GEL	173	158	127	95	76	64	55	49	40	34	20
C&D 2-490T GEL	181	168	142	110	89	75	65	57	47	40	23
C&D 2-600T GEL	208	194	172	135	109	92	79	70	57	49	29
C&D 2-800T GEL	317	289	244	180	145	122	106	93	76	65	38
C&D 2-1000T GEL	376	356	305	225	181	153	132	116	95	81	48
C&D 2-1200T GEL	409	378	332	263	216	183	158	139	114	97	57
C&D 2-1500T GEL	428	405	370	296	245	210	184	165	139	117	67
C&D 2-2000T GEL	550	540	506	394	326	280	246	220	185	156	90
C&D 2-2500T GEL	688	675	633	493	408	350	307	275	231	195	112
C&D 2-3000T GEL	825	810	759	591	489	420	369	330	278	234	134

1.85 EPV	15min	30min	1 h	2 h	3 h	4 h	5 h	6 h	8h	10 h	20 h
C&D 2-200T GEL	167	131	93	61.3	45.8	37	31.6	27.6	22	18.5	10.2
C&D 2-250T GEL	195	157	116	75.8	57.3	46.3	39.5	34.5	27.5	23.1	13.2
C&D 2-300T GEL	221	183	135	90.7	68.7	55.5	47.4	41.4	33	27.8	15.8
C&D 2-350T GEL	230	189	141	101	76	64	55	48	39	33	19
C&D 2-420T GEL	245	209	164	118	92	76	65	57	47	39	23
C&D 2-490T GEL	259	228	186	137	107	89	76	67	54	46	26
C&D 2-600T GEL	299	272	221	168	131	109	93	82	67	56	32
C&D 2-800T GEL	467	391	310	224	174	145	124	109	89	75	43
C&D 2-1000T GEL	554	489	387	280	218	181	156	137	111	93	54
C&D 2-1200T GEL	606	546	442	330	262	218	187	164	133	112	64
C&D 2-1500T GEL	624	573	489	378	305	260	225	200	162	135	77
C&D 2-2000T GEL	790	764	652	504	406	346	300	266	216	181	103
C&D 2-2500T GEL	988	955	815	630	508	433	375	333	270	226	128
C&D 2-3000T GEL	1185	1146	978	756	609	519	450	399	323	271	154

1.85 EPV	15min	30min	1 h	2 h	3 h	4 h	5 h	6 h	8h	10 h	20 h
C&D 2-200T GEL	167	131	93	61.3	45.8	37	31.6	27.6	22	18.5	10.2
C&D 2-250T GEL	195	157	116	75.8	57.3	46.3	39.5	34.5	27.5	23.1	13.2
C&D 2-300T GEL	221	183	135	90.7	68.7	55.5	47.4	41.4	33	27.8	15.8
C&D 2-350T GEL	230	189	141	101	76	64	55	48	39	33	19
C&D 2-420T GEL	245	209	164	118	92	76	65	57	47	39	23
C&D 2-490T GEL	259	228	186	137	107	89	76	67	54	46	26
C&D 2-600T GEL	299	272	221	168	131	109	93	82	67	56	32
C&D 2-800T GEL	467	391	310	224	174	145	124	109	89	75	43
C&D 2-1000T GEL	554	489	387	280	218	181	156	137	111	93	54
C&D 2-1200T GEL	606	546	442	330	262	218	187	164	133	112	64
C&D 2-1500T GEL	624	573	489	378	305	260	225	200	162	135	77
C&D 2-2000T GEL	790	764	652	504	406	346	300	266	216	181	103
C&D 2-2500T GEL	988	955	815	630	508	433	375	333	270	226	128
C&D 2-3000T GEL	1185	1146	978	756	609	519	450	399	323	271	154

1.80 EPV	15min	30min	1 h	2 h	3 h	4 h	5 h	6 h	8h	10 h	20 h
C&D 2-200T GEL	202	154	103	67	48	38,703	33.9	29.6	24	20.4	11
C&D 2-250T GEL	235	185	133	84.8	60	48,403	42.3	37	30	25.5	14.3
C&D 2-300T GEL	270	215	155	101	72	58,103	50.8	44.4	36	30.6	17.1
C&D 2-350T GEL	278	223	166	118	82	69	60	52	43	36	20
C&D 2-420T GEL	307	255	197	135	100	82	72	63	51	43	24
C&D 2-490T GEL	329	281	221	158	116	96	84	73	60	50	28
C&D 2-600T GEL	374	335	267	193	141	117	102	90	73	61	35
C&D 2-800T GEL	581	489	374	258	188	157	138	120	97	82	46
C&D 2-1000T GEL	696	598	468	324	239	198	172	150	121	102	58
C&D 2-1200T GEL	765	670	534	387	285	238	206	180	145	125	69
C&D 2-1500T GEL	810	747	630	473	354	299	263	230	183	153	85
C&D 2-2000T GEL	1080	996	840	630	462	398	350	306	244	204	113
C&D 2-2500T GEL	1350	1245	1050	788	597	498	410	372	305	256	142
C&D 2-3000T GEL	1620	1494	1260	945	702	597	500	450	366	306	170

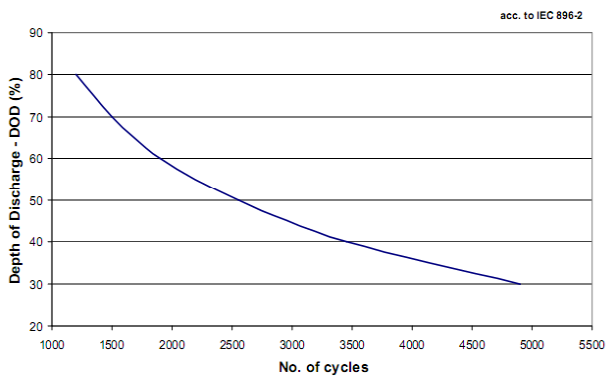
1.70 EPV	15min	30min	1 h	2 h	3 h	4 h	5 h	6 h	8h	10 h	20 h
C&D 2-200T GEL	259	179	104	70.4	52	41.5	34.9	30.4	24.5	20.6	11.1
C&D 2-250T GEL	294	214	131	88	65	51.9	43.7	38	30.6	25.7	14.4
C&D 2-300T GEL	342	257	156	106	78	62.4	52.6	45.7	36.7	30.9	17.3
C&D 2-350T GEL	368	277	180	125	92	74	62	54	43	36	20
C&D 2-420T GEL	410	323	213	148	110	88	75	65	52	43	25
C&D 2-490T GEL	444	360	249	172	129	103	87	76	61	51	29
C&D 2-600T GEL	516	429	305	211	158	126	107	93	74	62	35
C&D 2-800T GEL	802	616	414	281	210	168	142	123	99	83	47
C&D 2-1000T GEL	950	770	517	353	265	213	178	154	124	103	58
C&D 2-1200T GEL	1048	872	610	422	313	255	214	185	148	124	70
C&D 2-1500T GEL	1159	994	719	520	396	320	272	236	187	156	86
C&D 2-2000T GEL	1545	1325	959	694	528	427	362	315	249	208	115
C&D 2-2500T GEL	1932	1657	1199	867	660	534	453	394	312	260	143
C&D 2-3000T GEL	2318	1988	1438	1041	792	641	543	472	374	312	172

1.65 EPV	15min	30min	1 h	2 h	3 h	4 h	5 h	6 h	8h	10 h	20 h
C&D 2-200T GEL	282	186	114	71.8	52.6	42	35.2	30.7	24.6	20.6	11.1
C&D 2-250T GEL	312	223	143	89.8	65.8	52.5	44	38.3	30.8	25.8	14.5
C&D 2-300T GEL	366	268	172	108	78.9	63	53.1	46	36.9	31	17.3
C&D 2-350T GEL	400	290	197	127	93	74	63	54	44	36	20
C&D 2-420T GEL	456	348	235	151	112	89	75	65	52	44	25
C&D 2-490T GEL	496	391	274	176	131	104	88	76	61	51	29
C&D 2-600T GEL	572	466	333	215	160	128	108	93	75	62	35
C&D 2-800T GEL	896	658	460	287	213	170	144	124	100	83	47
C&D 2-1000T GEL	1055	822	565	361	269	215	180	155	124	104	58
C&D 2-1200T GEL	1176	956	682	431	318	258	215	186	149	125	70
C&D 2-1500T GEL	1306	1104	810	533	401	324	274	238	188	157	86
C&D 2-2000T GEL	1741	1472	1080	710	535	432	365	317	251	209	115
C&D 2-2500T GEL	2177	1840	1350	888	669	540	457	397	313	261	144
C&D 2-3000T GEL	2612	2208	1620	1066	803	647	548	476	376	313	172

C&D OPzV Solar					
Model	Capacity in Ah				
	at 20°C	at 25°C			
End Voltage V/Cell	C10	C48	C100	C120	C240
C&D 2-200T GEL	204	233	243	245	249
C&D 2-250T GEL	255	291	303	306	311
C&D 2-300T GEL	305	349	364	367	373
C&D 2-350T GEL	357	407	425	428	436
C&D 2-420T GEL	429	489	511	515	523
C&D 2-490T GEL	500	570	595	600	610
C&D 2-600T GEL	612	698	728	734	747
C&D 2-800T GEL	816	930	971	979	996
C&D 2-1000T GEL	1020	1163	1214	1224	1244
C&D 2-1200T GEL	1251	1426	1489	1501	1526
C&D 2-1500T GEL	1530	1744	1821	1836	1867
C&D 2-2000T GEL	2040	2326	2428	2448	2489
C&D 2-2500T GEL	2550	2907	3035	3060	3111
C&D 2-3000T GEL	3060	3488	3641	3672	3733

## Battery Performance Curve

**No. of Cycles vs. DOD**



**Service Life vs. Temperature**

