



Tubular OPzV Range BATTERY SOLUTIONS













*Premium quality for
Uninterrupted communications*

Tubular OPzV









Range






Specifications:

-  Extraordinary energy-saving features in addition with robust reliability
-  Electrolyte: Suspended Thixotropic Gel Maintenance-free the whole service life
-  Float Voltage: 2.23 VPC +/- 1% at 20 C
Max. Charge Voltage: 2.40 VPC at 20 C
-  Design life: 20 years at 20°C (80% remaining capacity from C₁₀)
-  Container material: SAN, UL 94-HB; optional ABS, UL 94V-0
-  Nominal capacity 200~3000 Ah C₁₀
-  Very low gassing due to internal gas recombination
-  Long shelf life of up to 2 years at 20°C without recharge due to the very low self discharge rate
-  Proof against deep discharge according to DIN 43 539 T5
-  Cells in compliance with DIN 40742 Completely recyclable

Technical Features

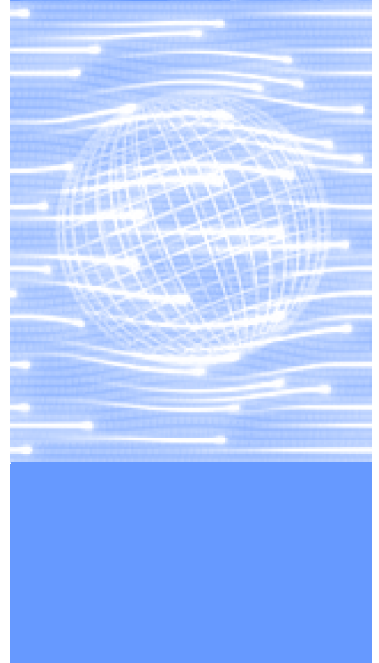
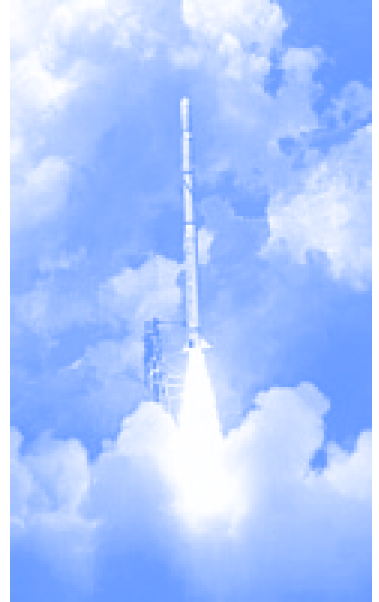
-  **Tubular positive plates:** Robust tubular plates consisting of a lead calcium antimony-free alloy, optimized for high corrosion resistances
-  **Pasted negative plates:** Grid plate construction consisting of lead calcium alloy
-  **Separators:** Microporous and robust, for electrical separation of the positive and negative plates and optimized for low internal resistance
-  **Housing:** SAN, on request flame retardant ABS according to UL 94 V-0
-  **One way relief valve:** operates at low pressure and fitted with flame arrestor, release gas in case of excess pressure and protects the cell against atmosphere
-  **Poles:** Screw connection for easy and safe assembly and maintenance-free connection with excellent conductivity
-  **Post seals:** extremely high integrity post seal design to prevent electrolyte leakage and terminal corrosion
-  **Connectors:** flexible fully insulated cable connectors screwed to the terminal with an insulated screw having a probe hole on the top for electrical measurement

Standards and Compliance

-  DIN 40742
-  IEC 60896 part 21-22
-  Eurobat Guide - "long life"

Applications

-  Telecommunications
-  Emergency lighting
-  Microwave radio systems
-  Power generation plants
-  Photovoltaics / Solar



OPzV Cells Technical Characteristics and Data

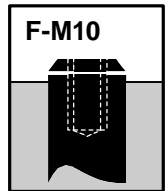
Part No.	DIN Type	Nom. Voltage (V)	Nom. Cap. Ah C10 1.8VPC	Discharge Current I ₁₀ Amps	Outline Dimensions (mm)					Weight (kg)	Pole Pairs	Internal resist. acc. to IEC896-2 mOhms	Short Circuit Current acc. to IEC 896-2A	Terminal
					Length (l)	Width (b/w)	Height (h1)	Height (h2)	Installed Length (B/L)					
2TV040200	4 OPzV 200	2	200	20	105	208	360	398	113	20.0	1	0.94	2235	F-M10
2TV050250	5 OPzV 250	2	250	25	126	208	360	398	134	24.0	1	0.78	2710	F-M10
2TV060300	6 OPzV 300	2	300	30	147	208	360	398	155	29.0	1	0.60	3420	F-M10
2TV050350	5 OPzV 350	2	350	35	126	208	475	513	134	31.0	1	0.61	3450	F-M10
2TV060420	6 OPzV 420	2	420	42	147	208	475	513	155	36.0	1	0.49	4220	F-M10
2TV070490	7 OPzV 490	2	500	50	168	208	475	513	176	42.0	1	0.51	4100	F-M10
2TV060600	6 OPzV 600	2	600	60	147	208	650	688	155	50.0	1	0.44	4750	F-M10
2TV090630	9 OPzV 630	2	630	63	227	208	475	513	235	53.5	1	0.42	4850	F-M10
2TV100700	10 OPzV 700	2	700	70	227	208	475	513	235	59.5	1	0.38	5500	F-M10
2TV110770	11 OPzV 770	2	770	77	227	208	475	513	235	65.5	1	0.35	6300	F-M10
2TV080800	8 OPzV 800	2	800	80	212	193	650	688	220	68.0	2	0.30	6820	F-M10
2TV101000	10 OPzV 1000	2	1000	100	212	235	650	688	220	82.0	2	0.25	8200	F-M10
2TV121200	12 OPzV 1200	2	1200	120	212	277	650	688	220	97.0	2	0.21	9850	F-M10
2TV121500	12 OPzV 1500	2	1500	150	212	277	800	838	220	120	2	0.19	10500	F-M10
2TV162000	16 OPzV 2000	2	2000	200	215	400	775	815	223	160	3	0.15	14000	F-M10
2TV202500	20 OPzV 2500	2	2500	250	215	490	775	815	223	200	4	0.12	17500	F-M10
2TV243000	24 OPzV 3000	2	3000	300	215	580	775	815	223	240	4	0.10	21000	F-M10

Acid density d_N = 1.240 kg/l Container: SAN (acrylonitrile polystyrene), UL 94 V-0 optional

Container, terminal and torque

Container:

Standard = SAN
UL 94-V0 = ABS

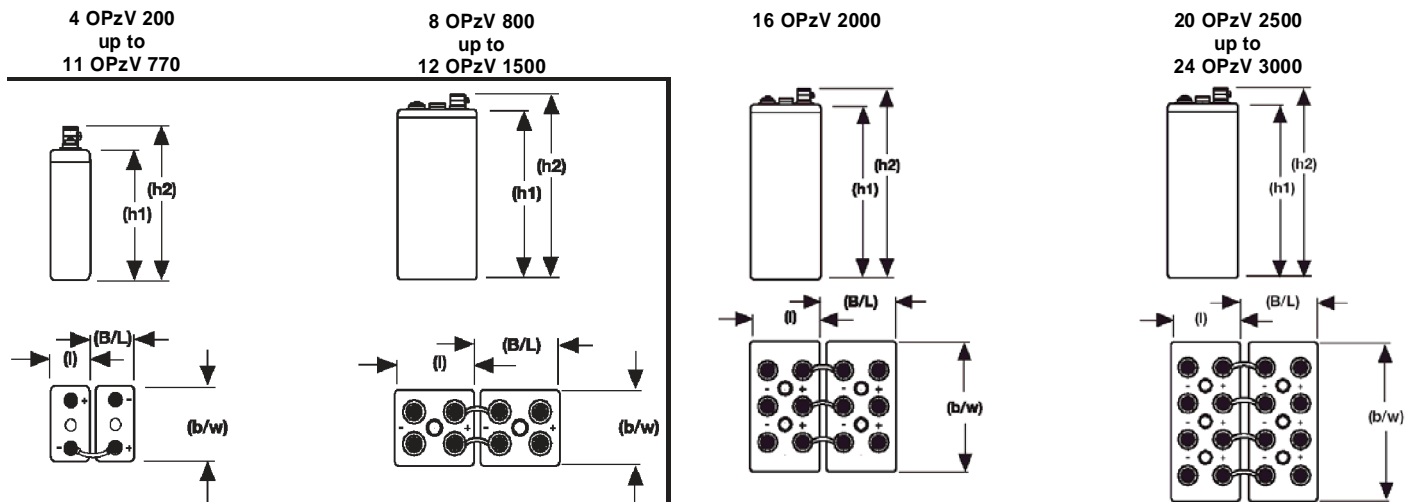


25 Nm

Standards:

- Conforms to both the DIN standard 40742 (valve regulated OPzV single cells) and the international standard IEC 60896-2
- Classified as 'long life' according to the EUROBAT guide 1999
- Low ventilation requirement according to EN 50272-2

Drawings with terminal position



Constant Current Discharge – Power-plus Tubular OPzV Gel Cell Discharge Data Amperes at 20°C

1.90 VPC – Discharge Data in Amps at 20°C											
Part No.	DIN Type	15min	30min	1h	2 h	3 h	4 h	5 h	6 h	8 h	10 h
2TV040200	4 OPzV 200	155	126	89.3	57.8	44.1	36.2	31.5	27.3	21.5	18.9
2TV050250	5 OPzV 250	193	158	116	72.5	55.7	45.2	39.9	35.7	27.3	23.1
2TV060300	6 OPzV 300	218	189	139	86.6	66.2	54.6	47	43.1	32.6	27.8
2TV050350	5 OPzV 350	232	205	152	103	79.8	66.2	55.7	52.5	41.0	34.7
2TV060420	6 OPzV 420	263	246	183	123	95.6	78.8	67.2	60.9	49.4	41.0
2TV070490	7 OPzV 490	307	287	213	144	111	92	78.2	71.4	57.8	48.3
2TV060600	6 OPzV 600	328	309	246	173	135	113	97.1	84.0	67.7	56.2
2TV090630	9 OPzV 630	344	324	258	182	143	119	102	89.3	71.4	58.8
2TV100700	10 OPzV 700	382	360	287	203	158	132	113	100	78.8	65.6
2TV110770	11 OPzV 770	420	396	315	222	174	146	125	108	86.6	71.9
2TV080800	8 OPzV 800	437	412	328	231	181	151	130	112	90.3	75.1
2TV101000	10 OPzV 1000	546	515	410	289	226	189	162	141	112	93.5
2TV121200	12 OPzV 1200	655	617	491	347	271	227	194	168	135	112
2TV121500	12 OPzV 1500	667	630	548	410	323	261	223	196	162	134
2TV162000	16 OPzV 2000	893	840	731	546	431	349	296	260	215	179
2TV202500	20 OPzV 2500	1218	1050	914	683	538	435	370	326	269	223
2TV243000	24 OPzV 3000	1344	1260	1096	819	645	522	444	391	322	268

1.87 VPC – Discharge Data in Amps at 20°C											
Part No.	DIN Type	15min	30min	1h	2 h	3 h	4 h	5 h	6 h	8 h	10 h
2TV040200	4 OPzV 200	172	139	99.8	69.3	52.5	41.5	35.7	31.0	25.2	21.0
2TV050250	5 OPzV 250	214	173	125	86.1	66.2	52.0	45.2	37.8	31.5	26.3
2TV060300	6 OPzV 300	257	208	150	102.9	79.8	60.9	54	45.2	37.8	31.5
2TV050350	5 OPzV 350	263	227	166	111	84.5	69.3	59.9	52.5	42.5	35.7
2TV060420	6 OPzV 420	315	273	201	134	101.9	83.0	71.4	62.5	51.0	42.8
2TV070490	7 OPzV 490	368	318	249	167	127	104	89.3	78.2	63.8	46.2
2TV060600	6 OPzV 600	378	347	271	186	144	120	102.4	89.3	70.6	58.8
2TV090630	9 OPzV 630	397	364	285	195	151	126	107	93.5	74.0	60.9
2TV100700	10 OPzV 700	441	404	316	217	168	140	120	104	82.4	68.3
2TV110770	11 OPzV 770	485	445	348	238	185	153	131	114	90.3	74.6
2TV080800	8 OPzV 800	504	462	361	248	192	160	137	119	94.1	78.2
2TV101000	10 OPzV 1000	630	578	452	310	239	200	170	148	118	97.7
2TV121200	12 OPzV 1200	756	693	542	372	288	239	205	179	141	118
2TV121500	12 OPzV 1500	830	756	624	454	357	288	245	214	171	143
2TV162000	16 OPzV 2000	1092	1008	832	605	476	383	327	286	229	190
2TV202500	20 OPzV 2500	1365	1260	1040	756	594	479	407	357	286	237
2TV243000	24 OPzV 3000	1628	1512	1239	907	714	575	489	428	342	286

Constant Current Discharge – Power-plus Tubular OPzV Gel Cell Discharge Data Amperes at 20°C

1.83 VPC – Discharge Data in Amps at 20°C											
Part No.	DIN Type	15min	30min	1h	2 h	3 h	4 h	5 h	6 h	8 h	10 h
2TV040200	4 OPzV 200	195	153	103	65.1	49.4	39.9	34.1	29.9	24.2	20.5
2TV050250	5 OPzV 250	244	191	129	81.4	61.4	49.9	43.1	37.3	30.5	25.2
2TV060300	6 OPzV 300	293	230	155	97.7	73.7	59.9	51.5	45.2	36.2	30.5
2TV050350	5 OPzV 350	305	256	184	119	89.3	73.5	63.0	55.1	44.6	36.2
2TV060420	6 OPzV 420	365	308	221	143	107	88.2	75.6	66.2	53.6	44.7
2TV070490	7 OPzV 490	426	359	257	167	125	103	88.2	77.2	62.5	52.2
2TV060600	6 OPzV 600	466	397	302	202	153	126	107	92.4	74.0	61.4
2TV090630	9 OPzV 630	490	417	318	212	161	132	112	97.1	77.7	64.6
2TV100700	10 OPzV 700	544	463	353	235	177	147	125	108	86.1	71.9
2TV110770	11 OPzV 770	599	509	389	258	195	162	137	119	94.5	78.8
2TV080800	8 OPzV 800	622	529	403	269	204	168	143	123	98.7	81.9
2TV101000	10 OPzV 1000	777	662	504	336	255	210	177	153	123	102
2TV121200	12 OPzV 1200	932	794	605	403	307	252	213	185	147	123
2TV121500	12 OPzV 1500	958	882	712	504	391	315	267	230	181	151
2TV162000	16 OPzV 2000	1277	1176	949	672	521	420	355	307	240	202
2TV202500	20 OPzV 2500	1596	1470	1187	840	651	525	443	382	300	252
2TV243000	24 OPzV 3000	1915	1764	1424	1008	781	630	532	459	361	302

1.80 VPC – Discharge Data in Amps at 20°C											
Part No.	DIN Type	15min	30min	1h	2 h	3 h	4 h	5 h	6 h	8 h	10 h
2TV040200	4 OPzV 200	212	162	107	66.8	52.5	41.5	35.2	30.2	24.7	21.0
2TV050250	5 OPzV 250	266	202	134	83.5	65.6	51.5	43.6	37.8	30.5	26.3
2TV060300	6 OPzV 300	318	242	161	100.3	78.8	61.7	52.3	45.7	36.5	31.5
2TV050350	5 OPzV 350	336	278	194	123	91.9	75.6	64.6	56.2	45.2	38.3
2TV060420	6 OPzV 420	403	334	233	148	110	90.1	77.5	67.4	54.2	44.6
2TV070490	7 OPzV 490	470	390	272	172	129	106	90.8	78.6	63.5	52.5
2TV060600	6 OPzV 600	517	441	328	209	158	129	108	94.5	75.6	63.0
2TV090630	9 OPzV 630	543	463	344	221	166	135	114	99.2	79.8	66.2
2TV100700	10 OPzV 700	603	515	382	244	184	150	127	110	88.2	73.5
2TV110770	11 OPzV 770	663	566	420	269	203	165	140	122	97.1	80.9
2TV080800	8 OPzV 800	689	588	437	279	210	172	146	126	101	84.0
2TV101000	10 OPzV 1000	861	735	546	349	263	214	182	158	126	105
2TV121200	12 OPzV 1200	1033	882	655	419	315	257	217	189	151	126
2TV121500	12 OPzV 1500	1058	970	775	532	410	330	276	238	189	158
2TV162000	16 OPzV 2000	1411	1294	1033	710	546	439	368	318	251	210
2TV202500	20 OPzV 2500	1764	1617	1292	886	656	548	460	397	313	263
2TV243000	24 OPzV 3000	2117	1940	1550	1063	819	658	552	477	376	315

Constant Current Discharge – Power-plus Tubular OPzV Gel Cell Discharge Data Amperes at 20°C

1.75 VPC – Discharge Data in Amps at 20°C

Part No.	DIN Type	15min	30min	1h	2 h	3 h	4 h	5 h	6 h	8 h	10 h
2TV040200	4 OPzV 200	238	173	116	68.9	52.5	42.0	35.7	31.1	25.2	21.0
2TV050250	5 OPzV 250	298	216	145	86.1	65.6	52.5	44.6	38.9	31.5	27.3
2TV060300	6 OPzV 300	358	259	145	103	78.8	63.0	53.6	46.6	37.8	31.5
2TV050350	5 OPzV 350	386	305	206	128	95.0	77.7	66.2	57.8	46.2	38.9
2TV060420	6 OPzV 420	464	365	247	153	114	93.2	79.4	69.3	55.4	46.7
2TV070490	7 OPzV 490	541	426	288	180	133	109	92.6	80.9	64.7	54.4
2TV060600	6 OPzV 600	592	491	353	218	164	132	111	97.0	76.9	64.1
2TV090630	9 OPzV 630	622	516	371	230	172	139	117	101.9	80.6	67.2
2TV100700	10 OPzV 700	691	573	404	255	191	154	129	113	89.8	74.6
2TV110770	11 OPzV 770	759	630	445	280	210	170	141	125	98.7	81.9
2TV080800	8 OPzV 800	790	655	470	292	218	176	148	129	102	85.1
2TV101000	10 OPzV 1000	987	819	588	364	273	221	185	162	128	106
2TV121200	12 OPzV 1200	1184	983	706	438	328	265	222	194	153	127
2TV121500	12 OPzV 1500	1260	1109	866	567	423	342	286	246	194	161
2TV162000	16 OPzV 2000	1680	1478	1155	756	571	457	381	328	258	214
2TV202500	20 OPzV 2500	2100	1848	1444	945	662	571	477	410	323	267
2TV243000	24 OPzV 3000	2520	2218	1733	1134	857	686	571	491	389	320

1.70 VPC – Discharge Data in Amps at 20°C

Part No.	DIN Type	15min	30min	1h	2 h	3 h	4 h	5 h	6 h	8 h	10 h
2TV040200	4 OPzV 200	263	181	117	70.1	52.5	42.4	36.2	31.5	25.2	22.1
2TV050250	5 OPzV 250	328	226	145	87.7	65.6	53.0	44.6	38.9	32.0	27.3
2TV060300	6 OPzV 300	394	271	174	106	78.8	63.6	53.6	46.7	37.8	32.0
2TV050350	5 OPzV 350	428	328	212	131	96.6	78.2	66.7	57.8	46.7	39.9
2TV060420	6 OPzV 420	515	394	255	158	117	94.0	80.3	69.3	55.7	47.3
2TV070490	7 OPzV 490	601	459	297	184	135	110	94.5	80.9	65.1	54.6
2TV060600	6 OPzV 600	668	542	369	254	167	133	112	97.1	77.2	65.1
2TV090630	9 OPzV 630	701	569	387	267	175	140	118	101.9	80.9	68.3
2TV100700	10 OPzV 700	779	632	431	263	195	155	130	113	89.8	75.6
2TV110770	11 OPzV 770	857	695	473	289	214	171	144	125	99.2	81.9
2TV080800	8 OPzV 800	890	722	491	300	223	177	149	130	102	86.1
2TV101000	10 OPzV 1000	1113	903	614	375	278	222	186	162	128	107
2TV121200	12 OPzV 1200	1336	1084	738	450	334	267	224	194	154	128
2TV121500	12 OPzV 1500	1436	1222	920	595	441	352	293	251	195	162
2TV162000	16 OPzV 2000	1915	1630	1226	794	588	469	391	335	260	215
2TV202500	20 OPzV 2500	2394	2037	1533	991	735	586	487	418	326	269
2TV243000	24 OPzV 3000	2873	2444	1840	1189	882	704	585	502	391	323

Constant Power Discharge – Power-plus Tubular OPzV Gel Cell Discharge Data Watts at 20°C

1.90 VPC – Discharge Data in watts at 20°C

Part No.	DIN Type	15min	30min	1h	2 h	3 h	4 h	5 h	6 h	8 h	10 h
2TV040200	4 OPzV 200	219	200	160	112	87.2	71.4	60.9	53.6	42.0	34.7
2TV050250	5 OPzV 250	274	248	200	141	109	88.2	76.7	66.2	53.6	45.2
2TV060300	6 OPzV 300	329	299	238	168	131	107	91.4	79.8	65.1	55.7
2TV050350	5 OPzV 350	312	294	266	191	149	125	107	94.5	77.7	67.2
2TV060420	6 OPzV 420	375	353	316	228	180	149	128	113	93.5	80.9
2TV070490	7 OPzV 490	437	413	370	268	209	174	150	132	109	93.5
2TV060600	6 OPzV 600	468	443	410	315	259	218	189	167	137	119
2TV090630	9 OPzV 630	484	458	423	327	268	226	196	173	142	134
2TV100700	10 OPzV 700	538	509	470	362	298	251	218	192	159	149
2TV110770	11 OPzV 770	591	560	518	399	328	276	239	211	174	165
2TV080800	8 OPzV 800	625	590	546	420	345	292	251	221	183	158
2TV101000	10 OPzV 1000	780	737	683	525	432	364	313	278	228	197
2TV121200	12 OPzV 1200	936	885	819	630	518	438	377	334	274	236
2TV121500	12 OPzV 1500	951	920	877	688	572	489	425	375	309	267
2TV162000	16 OPzV 2000	1269	1224	1168	917	761	652	567	500	412	355
2TV202500	20 OPzV 2500	1588	1533	1462	1146	952	814	709	625	515	444
2TV243000	24 OPzV 3000	1906	1839	1754	1374	1141	980	852	749	617	534

1.87 VPC – Discharge Data in watts at 20°C

Part No.	DIN Type	15min	30min	1h	2 h	3 h	4 h	5 h	6 h	8 h	10 h
2TV040200	4 OPzV 200	270	234	181	124	94.5	77.7	67.2	58.8	46.2	38.9
2TV050250	5 OPzV 250	338	292	225	154	119	97.7	83.0	72.5	58.8	49.4
2TV060300	6 OPzV 300	405	352	269	186	142	119	99.8	87.2	70.4	59.9
2TV050350	5 OPzV 350	389	368	298	212	166	138	118	104	84.0	72.5
2TV060420	6 OPzV 420	467	441	358	254	200	165	142	124	101	87.2
2TV070490	7 OPzV 490	545	516	418	296	232	193	166	145	118	102
2TV060600	6 OPzV 600	580	553	466	356	291	242	209	184	149	128
2TV090630	9 OPzV 630	600	572	482	369	301	250	217	191	155	133
2TV100700	10 OPzV 700	667	636	536	410	335	278	242	212	173	148
2TV110770	11 OPzV 770	733	699	589	450	368	306	266	233	190	163
2TV080800	8 OPzV 800	773	738	622	474	386	323	278	245	200	172
2TV101000	10 OPzV 1000	966	922	777	593	452	405	348	307	249	214
2TV121200	12 OPzV 1200	1159	1107	932	711	581	486	417	366	298	257
2TV121500	12 OPzV 1500	1175	1150	1008	781	643	543	469	413	336	289
2TV162000	16 OPzV 2000	1567	1533	1344	1042	857	722	625	550	447	385
2TV202500	20 OPzV 2500	1959	1916	1680	1302	1071	90	781	688	560	482
2TV243000	24 OPzV 3000	2351	2298	2016	1561	1287	1084	938	826	672	578

Constant Power Discharge – Power-plus Tubular OPzV Gel Cell Discharge Data Watts at 20°C

1.83 VPC – Discharge Data in watts at 20°C

Part No.	DIN Type	15min	30min	1h	2 h	3 h	4 h	5 h	6 h	8 h	10 h
2TV040200	4 OPzV 200	350	285	212	140	108	86.1	73.5	64.1	50.4	42.0
2TV050250	5 OPzV 250	437	356	266	175	133	109	91.4	79.8	64.1	52.5
2TV060300	6 OPzV 300	526	427	320	209	160	130	110	95.6	76.7	64.1
2TV050350	5 OPzV 350	532	459	357	244	190	154	130	114	91.4	76.7
2TV060420	6 OPzV 420	637	549	427	291	227	187	156	138	110	91.4
2TV070490	7 OPzV 490	744	639	501	340	267	218	184	161	128	107
2TV060600	6 OPzV 600	785	696	574	419	334	274	231	204	164	139
2TV090630	9 OPzV 630	813	720	594	433	345	284	240	212	170	40
2TV100700	10 OPzV 700	903	799	662	482	384	315	268	235	189	161
2TV110770	11 OPzV 770	993	880	728	529	423	347	294	258	208	176
2TV080800	8 OPzV 800	1047	928	767	560	445	364	310	272	217	186
2TV101000	10 OPzV 1000	1307	1159	958	697	558	456	385	338	272	231
2TV121200	12 OPzV 1200	1571	1391	1149	838	668	547	463	406	326	279
2TV121500	12 OPzV 1500	1600	1477	1255	941	756	624	528	465	374	312
2TV162000	16 OPzV 2000	2135	1971	1674	1254	1008	831	704	620	497	417
2TV202500	20 OPzV 2500	2668	2463	2092	1568	1260	1037	881	774	622	522
2TV243000	24 OPzV 3000	3203	2957	2511	1881	1512	1246	1055	930	744	627

1.80 VPC – Discharge Data in watts at 20°C

Part No.	DIN Type	15min	30min	1h	2 h	3 h	4 h	5 h	6 h	8 h	10 h
2TV040200	4 OPzV 200	360	293	218	144	111	89.3	75.6	66.2	51.5	43.1
2TV050250	5 OPzV 250	450	366	274	181	138	112	94.5	81.9	66.2	54.6
2TV060300	6 OPzV 300	542	441	330	215	165	134	113	98.7	78.8	66.2
2TV050350	5 OPzV 350	549	473	369	251	196	160	134	118	94.5	78.8
2TV060420	6 OPzV 420	657	566	441	300	234	192	162	142	113	94.5
2TV070490	7 OPzV 490	768	659	517	351	275	225	189	166	132	110
2TV060600	6 OPzV 600	810	717	592	432	344	282	238	210	169	143
2TV090630	9 OPzV 630	838	742	613	446	356	292	248	218	175	149
2TV100700	10 OPzV 700	931	824	681	497	396	324	276	243	195	166
2TV110770	11 OPzV 770	1024	907	750	546	436	357	303	267	214	182
2TV080800	8 OPzV 800	1079	957	791	576	459	376	319	280	224	191
2TV101000	10 OPzV 1000	1348	1195	987	719	574	469	397	349	280	238
2TV121200	12 OPzV 1200	1619	1434	1184	864	689	564	478	419	336	259
2TV121500	12 OPzV 1500	1650	1523	1294	970	779	643	545	480	385	321
2TV162000	16 OPzV 2000	2201	2032	1725	1293	1040	856	726	638	512	429
2TV202500	20 OPzV 2500	2751	2540	2157	1616	1299	1070	908	798	641	538
2TV243000	24 OPzV 3000	3301	3048	2588	1938	1559	1285	1088	959	768	646

Constant Power Discharge – Power-plus Tubular OPzV Gel Cell Discharge Data Watts at 20°C

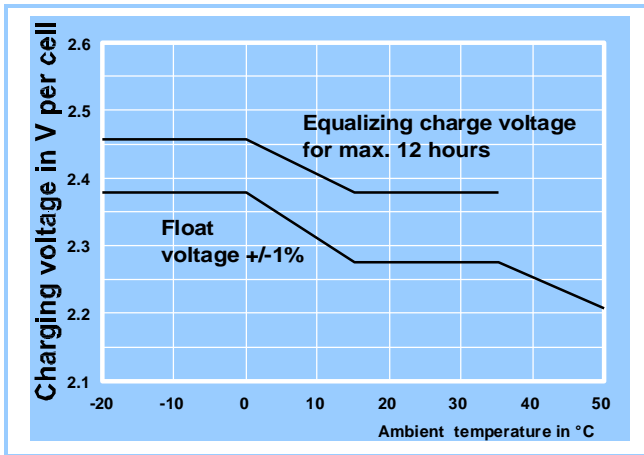
1.75 VPC – Discharge Data in watts at 20°C

Part No.	DIN Type	15min	30min	1h	2 h	3 h	4 h	5 h	6 h	8 h	10 h
2TV040200	4 OPzV 200	408	326	237	152	114	91.4	76.7	67.2	51.5	43.1
2TV050250	5 OPzV 250	511	407	296	190	142	116	95.6	83.0	66.2	54.6
2TV060300	6 OPzV 300	614	487	357	228	170	138	114	99.8	78.8	66.2
2TV050350	5 OPzV 350	625	524	411	270	206	166	139	120	94.5	78.8
2TV060420	6 OPzV 420	751	629	492	323	246	201	167	144	113	94.5
2TV070490	7 OPzV 490	875	733	574	376	288	233	194	168	132	110
2TV060600	6 OPzV 600	932	811	671	469	364	298	249	216	171	144
2TV090630	9 OPzV 630	965	839	695	485	377	309	259	225	72	150
2TV100700	10 OPzV 700	1072	932	772	539	419	343	288	250	197	167
2TV110770	11 OPzV 770	1179	1026	849	593	461	377	317	275	217	184
2TV080800	8 OPzV 800	1244	1082	896	625	487	399	333	289	228	193
2TV101000	10 OPzV 1000	1554	1352	1118	782	608	497	415	360	285	240
2TV121200	12 OPzV 1200	1865	1623	1342	939	729	596	499	433	342	290
2TV121500	12 OPzV 1500	1932	1736	1445	1076	843	677	564	489	385	321
2TV162000	16 OPzV 2000	2576	2315	1927	1435	1125	904	752	651	512	429
2TV202500	20 OPzV 2500	3219	2893	2409	1794	1405	1130	939	814	641	538
2TV243000	24 OPzV 3000	3864	3473	2891	2153	1687	1357	1129	978	768	646

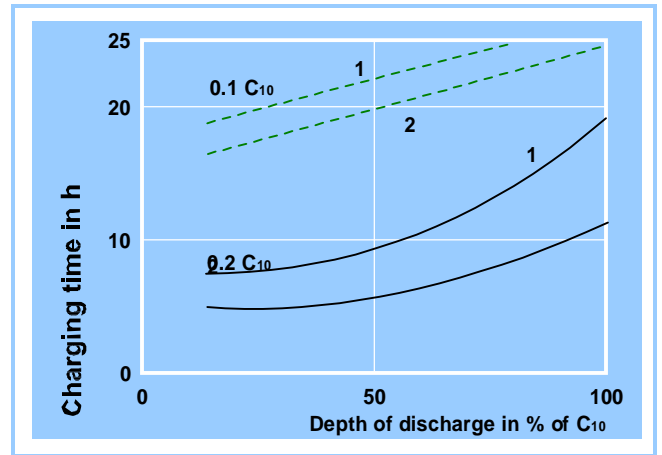
1.70 VPC – Discharge Data in watts at 20°C

Part No.	DIN Type	15min	30min	1h	2 h	3 h	4 h	5 h	6 h	8 h	10 h
2TV040200	4 OPzV 200	453	348	247	153	114	91.4	76.7	67.2	51.5	43.1
2TV050250	5 OPzV 250	567	435	309	192	143	116	95.6	83.0	66.2	54.6
2TV060300	6 OPzV 300	680	522	372	230	170	138	114	99.8	78.8	66.2
2TV050350	5 OPzV 350	689	567	429	278	206	166	139	120	94.5	78.8
2TV060420	6 OPzV 420	826	681	516	334	247	201	167	144	113	94.5
2TV070490	7 OPzV 490	964	794	602	387	288	233	194	168	132	110
2TV060600	6 OPzV 600	1043	896	721	492	371	298	249	216	171	144
2TV090630	9 OPzV 630	1078	926	747	509	383	309	259	225	177	150
2TV100700	10 OPzV 700	1198	1029	830	566	426	343	288	250	197	167
2TV110770	11 OPzV 770	1318	1132	912	623	469	377	317	275	217	184
2TV080800	8 OPzV 800	1390	1194	962	656	494	399	333	289	228	193
2TV101000	10 OPzV 1000	1736	1491	1202	820	618	497	415	360	285	240
2TV121200	12 OPzV 1200	2083	1790	1442	985	741	596	499	433	342	290
2TV121500	12 OPzV 1500	2172	1931	1623	1147	848	677	564	489	385	321
2TV162000	16 OPzV 2000	2896	2575	2163	1530	1130	904	752	651	512	429
2TV202500	20 OPzV 2500	3620	3218	2707	1912	1413	1130	939	814	641	538
2TV243000	24 OPzV 3000	4343	3862	3249	2294	1695	1357	1129	978	768	646

Technical data curves



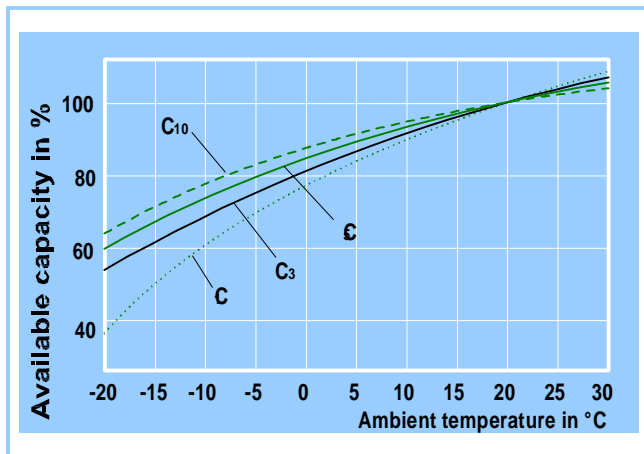
For continuous charging we recommend a voltage of 2.25 V. The charging voltage must be compensated to the curve for a continuously different battery ambient temperature.



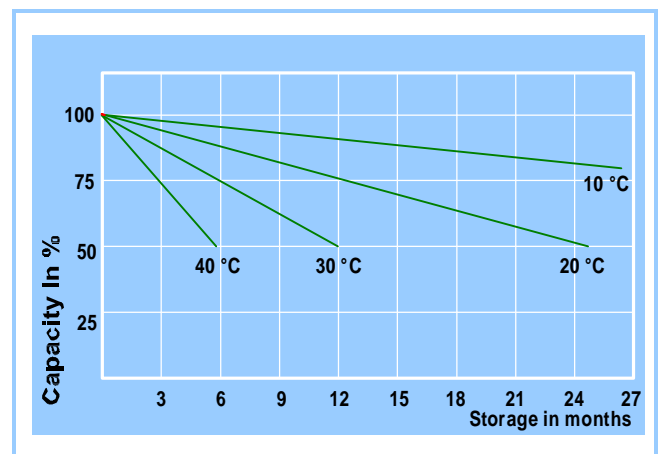
Recharging time in relation to the initial charging current at 20°C.

--- State of charge 100 % — State of charge 90 %

Charge voltage: 1: 2.25 V/C
 2: 2.40 V/C



Available capacity in relation to the ambient temperature.

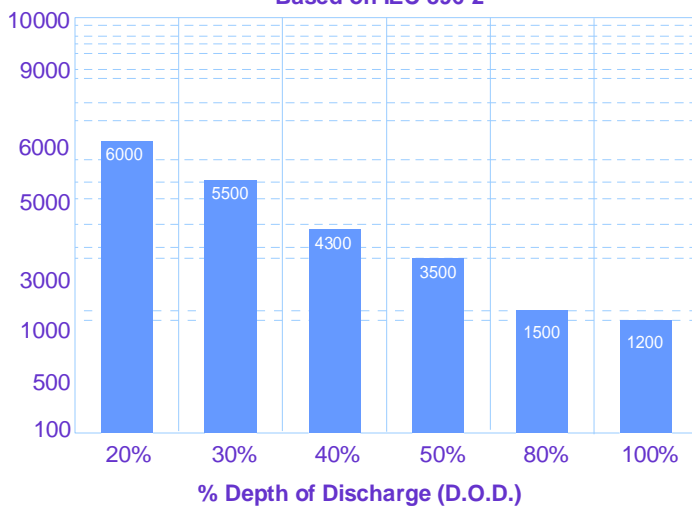


Self-discharge in relation to the storage temperature.

Long duration discharge Capacity Ah

Part No.	DIN Type	C ₂₄	C ₄₈	C ₁₀₀	C ₁₂₀	C ₂₄₀
		1.85 VPC – Discharge Data in Ampere Hour at 20°C				
2TV040200	4 OPzV 200	225	250	257	262	266
2TV050250	5 OPzV 250	281	312	321	328	334
2TV060300	6 OPzV 300	337	375	384	392	399
2TV050350	5 OPzV 350	393	437	448	457	465
2TV060420	6 OPzV 420	472	525	539	550	559
2TV070490	7 OPzV 490	552	613	629	642	653
2TV060600	6 OPzV 600	674	750	769	785	799
2TV090630	9 OPzV 630	708	788	807	823	838
2TV100700	10 OPzV 700	786	875	898	916	932
2TV110770	11 OPzV 770	865	963	987	1007	1024
2TV080800	8 OPzV 800	890	1000	1016	1037	1055
2TV101000	10 OPzV 1000	1113	1250	1270	1296	1318
2TV121200	12 OPzV 1200	1333	1500	1525	1556	1582
2TV121500	12 OPzV 1500	1639	1830	1940	1980	1941
2TV162000	16 OPzV 2000	2185	2440	2494	2545	2588
2TV202500	20 OPzV 2500	2732	3050	3117	3181	3235
2TV243000	24 OPzV 3000	3279	3660	3741	3817	3882

Tubular OPzV Range Cycle Life vs Depth of Discharge
Based on IEC 896-2



1500 cycles to 80% DOD and 5500 to over 30% DOD !

TYPICAL CYCLIC PERFORMANCE

CAPACITY WITHDRAWN	CYCLES
100%	1200
80%	1500
50%	3500
40%	4300
30%	5500
20%	6000

BATTERY CYCLING ABILITY

The Power-plus' Tubular OPzV Range Battery excels in cycling applications. Power-plus' Tubular OPzV Range batteries are capable of 6000+ charge / discharge cycles depending on the depth of discharge.

