

TUBULAR PLATE OPzS RANGE

STATIONARY LEAD ACID BATTERIES WITH TUBULAR POSITIVE PLATES

THIS RANGE IS SPECIFICALLY DESIGNED FOR STATIONARY
INSTALLATIONS WHERE CYCLIC DISCHARGES MAY OCCUR

SEC-T-RANGE 100Ah to 3000Ah

MAIN APPLICATIONS

- Telecommunications
- Photovoltaic/Cyclic
- Power Plant
- Emergency Lighting
- Transmission Switching
- UPS systems
- Alarm systems
- Signalling

CELL DESCRIPTION

POSITIVE PLATES

- Tubular spine grid
- Low Antimony
- Multiwoven polyester sleeve

NEGATIVE PLATES

- Flat pasted grid
- Two level mesh for low resistance

VENT PLUG

- Explosion proof flame arrestor

TERMINALS

- O-ring sealing system
- Allows +ve plate growth
- Copper female insert for M8 bolt

INTERCONNECTS

- Insulated cables

ELECTROLYTE

- Specific gravity 1.240
- Large reserve for low maintenance

SEPARATORS

- Microporous plastic

CONTAINER

- Transparent acrylonitrile polystyrene (S.A.N.)

COVER

- Grey acrylonitrile polystyrene (S.A.N.)



APPROVED BY TELECOM AND POWER
AUTHORITIES WORLDWIDE



T Bloc & Range - Tubular Plate Discharge Data Amp Hour at 20 C. to 1.85 to 1.65 VPC

SEC CELL TYPE	European DIN TYPE	Discharge Time Hours											Discharge in Min.	
		100 Hr. 1.85 vpc	72 Hr. 1.85 vpc	48 Hr. 1.85 vpc	24 Hr. 1.85 vpc	10 Hr. 1.80 vpc	8 Hr.** 1.75 - 25 C	6 Hr. 1.77 vpc	5 Hr. 1.77 vpc	4 Hr. 1.75 vpc	3 Hr. 1.75 vpc	2 Hr. 1.75 vpc	60Min. 1.67 vpc	30Min. 1.65 vpc
SEC T5-05	2 OPzS 100	141	140	134	125	100	100	88.0	87.5	79.0	75.0	62.0	53.0	78.0
SEC T5-07	3 OPzS 150	212	210	201	188	150	150	133	126	120	113	95.0	80.0	116
SEC T5-09	4 OPzS 200	282	280	268	250	200	200	178	169	160	150	126	106	154
SEC T5-11	5 OPzS 250	352	350	335	310	250	250	222	211	200	188	157	130	192
SEC T5-13	6 OPzS 300	420	420	402	375	300	300	266	253	239	225	188	160	230
SEC T7-11	5 OPzS 350	505	500	469	435	350	350	310	294	279	263	220	186	268
SEC T7-13	6 OPzS 420	605	600	562	525	420	420	372	353	334	315	263	224	322
SEC T7-15	7 OPzS 490	709	705	656	610	500	500	437	412	390	368	307	260	375
SEC T10-13	6 OPzS 600	865	864	804	732	600	600	532	506	478	450	373	310	426
SEC T10-15	7 OPzS 700	1011	1004	938	853	700	700	620	590	557	525	435	365	497
SEC T10-17	8 OPzS 800	1155	1150	1072	975	800	800	709	674	637	600	498	418	568
SEC T10-21	10 OPzS 1000	1445	1440	1340	1210	1000	1000	887	843	797	750	622	520	710
SEC T10-25	12 OPzS 1200	1730	1725	1608	1460	1200	1200	1064	1011	956	900	747	620	852
SEC T12-25	12 OPzS 1500	2115	2100	2010	1800	1500	1500	1310	1235	1176	1116	912	745	1056
SEC T12-29	14 OPzS 1750	2465	2450	2345	2100	1750	1750	1529	1441	1372	1302	1064	870	1242
SEC T12-31	15 OPzS 1875	2630	2625	2512	2250	1875	1875	1638	1544	1470	1395	1140	930	1320
SEC T12-33	16 OPzS 2000	2810	2800	2680	2400	2000	2000	1747	1646	1567	1488	1215	990	1408
SEC T12-37	18 OPzS 2250	3160	3150	3015	2700	2250	2250	1994	1900	1793	1686	1378	1120	1584
SEC T12-41	20 OPzS 2500	3520	3500	3350	3000	2500	2500	2184	2058	1959	1860	1519	1235	1760
SEC T12-49	24 OPzS 3000	4220	4200	4020	3600	3000	3000	2621	2470	2351	2232	1823	1480	2112

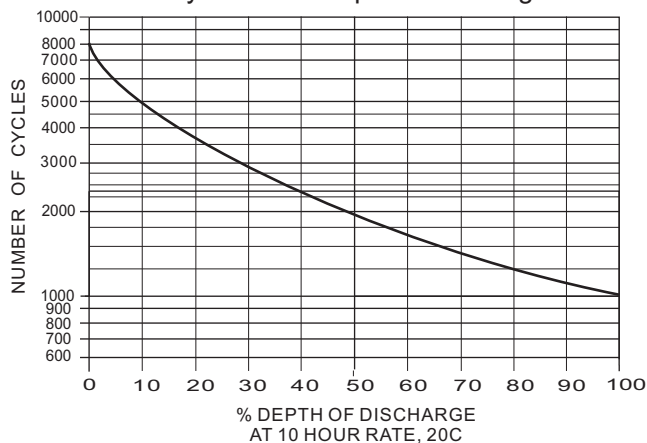
** The 8 hour rates is to 1.75 vpc at 25 Deg. C. - Actual Battery Discharge Data may be +/-5% of figures shown

T Range - Tubular Plate Discharge Data Amps at 20 C. to 1.85 to 1.65 VPC

SEC CELL TYPE	European DIN TYPE	Discharge Time Hours											Discharge in Min.	
		100 Hr. 1.85 vpc	72 Hr. 1.85 vpc	48 Hr. 1.85 vpc	24 Hr. 1.85 vpc	10 Hr. 1.80 vpc	8 Hr.** 1.75 - 25C	6 Hr. 1.77 vpc	5 Hr. 1.77 vpc	4 Hr. 1.75 vpc	3 Hr. 1.75 vpc	2 Hr. 1.75 vpc	60Min. 1.67 vpc	30Min. 1.65 vpc
SEC T5-05	2 OPzS 100	1.41	1.94	2.79	5.21	10.0	12.5	14.7	17.5	19.8	25.0	31.0	53.0	78.0
SEC T5-07	3 OPzS 150	2.12	2.92	4.19	7.83	15.0	18.8	22.2	25.2	30.0	37.7	47.5	80.0	116
SEC T5-09	4 OPzS 200	2.82	3.89	5.58	10.4	20.0	25.0	29.7	33.8	40.0	50.0	63.0	106	154
SEC T5-11	5 OPzS 250	3.52	4.86	6.98	12.9	25.0	31.3	37.0	42.2	50.0	62.7	78.5	130	192
SEC T5-13	6 OPzS 300	4.20	5.83	8.38	15.6	30.0	37.5	44.3	50.6	59.8	75.0	94.0	160	230
SEC T7-11	5 OPzS 350	5.05	6.94	9.77	18.1	35.0	43.8	51.7	58.8	69.8	87.7	110	186	268
SEC T7-13	6 OPzS 420	6.05	8.33	11.7	21.9	42.0	52.5	62.0	70.6	83.5	105	132	224	322
SEC T7-15	7 OPzS 490	7.09	9.79	13.7	25.4	50.0	62.5	72.8	82.4	97.5	123	154	260	375
SEC T10-13	6 OPzS 600	8.65	12.0	16.8	30.5	60.0	75.0	88.7	101	120	150	187	310	426
SEC T10-15	7 OPzS 700	10.1	13.9	19.5	35.5	70.0	76.0	103	118	139	175	218	365	427
SEC T10-17	8 OPzS 800	11.6	16.0	22.3	40.6	80.0	100	118	135	159	200	249	418	568
SEC T10-21	10 OPzS 1000	14.5	20.0	27.9	50.4	100	125	148	169	199	250	311	520	710
SEC T10-25	12 OPzS 1200	17.3	24.0	33.5	60.8	120	150	177	202	239	300	374	620	852
SEC T12-25	12 OPzS 1500	21.2	29.2	41.9	75.0	150	188	218	247	294	372	456	745	1056
SEC T12-29	14 OPzS 1750	24.7	34.0	48.9	87.5	175	219	255	288	343	434	532	870	1242
SEC T12-31	15 OPzS 1875	26.3	36.5	52.3	93.8	188	234	273	309	368	465	570	930	1320
SEC T12-33	16 OPzS 2000	28.1	38.9	55.8	100	200	250	291	329	392	496	608	990	1408
SEC T12-37	18 OPzS 2250	31.6	43.8	62.8	113	225	281	332	380	448	562	689	1120	1584
SEC T12-41	20 OPzS 2500	35.2	48.6	69.8	125	250	313	364	412	490	620	760	1235	1760
SEC T12-49	24 OPzS 3000	42.2	58.3	83.8	150	300	375	437	494	588	744	912	1480	2112

** The 8 hour rates is to 1.75 vpc at 25 Deg. C. - Actual Battery Discharge Data may be +/-5% of figures shown

Cycle life vs Depth Of discharge



Advantage of T- Range Cells

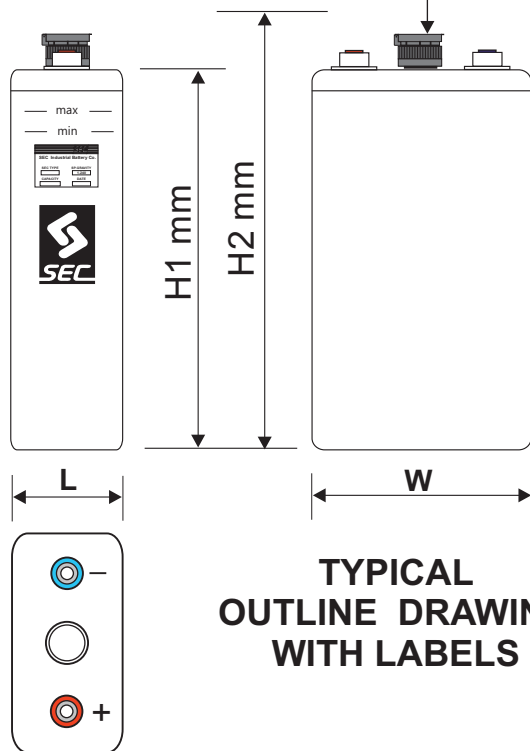
Tubular positive plates for long life in float and cyclic applications. Performance guaranteed. Conforms to European standards DIN 40736. Long life of 20 years in float service at 20°C, and 1200+ deep cycles..For minimum maintenance the recommended float charge of 2.20 Vpc (± 0.01 Vpc) at 20°C. For temperature other than 20°C the float voltage should be corrected using the temperature correction factor of ± 0.004 volts /cell /degree C. For temperature above / below 20°C e.g. 10°C the voltage has to be increased and at 30°C the float voltage has to be reduced. **Operating Temperature:** -25 to +55°C. However we recommend that the batteries be operated at temperature of 20°C to obtain full life and optimum performance.

T Range - Tubular Plate - Battery Dimensions Weight & Data

SEC CELL TYPE	European DIN TYPE	Nom. Volts	Overall Dimensions				Cell Weight		Electrolyte		Internal Resistance m Ohms	Short Circuit Current	1 Min. Discharge Rate	Number of Terminal
			Length mm	Width mm	Height 1 mm	Height 2 mm	Dry kg	Wet kg	Elect. kg	Elect. ltr. +10%				
SEC T5-05	2 OPzS 100	2	105	208	356	411	7.6	12.6	5.00	4.44	2.23	1020	110	2
SEC T5-07	3 OPzS 150	2	105	208	356	411	10.8	15.3	4.50	3.99	1.62	1610	160	2
SEC T5-09	4 OPzS 200	2	105	208	356	411	13.2	17.2	4.00	3.55	0.95	2160	240	2
SEC T5-11	5 OPzS 250	2	126	208	356	411	16.2	20.8	4.60	4.08	0.76	2700	300	2
SEC T5-13	6 OPzS 300	2	147	208	356	411	19.2	24.3	5.10	4.52	0.63	3240	360	2
SEC T7-11	5 OPzS 350	2	126	208	472	527	19.4	26.9	7.50	6.65	0.70	2900	385	2
SEC T7-13	6 OPzS 420	2	147	208	472	527	23.4	31.5	8.10	7.19	0.58	3480	460	2
SEC T7-15	7 OPzS 490	2	166	208	472	527	27.4	36.1	8.70	7.72	0.50	1060	530	2
SEC T10-13	6 OPzS 600	2	147	208	647	702	33.9	44.8	10.9	9.67	0.46	4300	504	2
SEC T10-15	7 OPzS 700	2	193	212	647	702	40.2	56.2	15.5	13.8	0.39	4900	390	4
SEC T10-17	8 OPzS 800	2	193	212	647	702	45.3	61.3	16.0	14.2	0.35	5760	672	4
SEC T10-21	10 OPzS 1000	2	235	212	647	702	55.5	74.6	19.1	16.9	0.28	7200	840	4
SEC T10-25	12 OPzS 1200	2	277	212	647	702	65.8	88.0	22.2	19.7	0.234	8640	1008	4
SEC T12-25	12 OPzS 1500	2	277	212	797	852	87.0	115	27.3	24.2	0.225	9180	1080	6
SEC T12-29	14 OPzS 1750	2	401	216	773	828	105	140	35.2	31.2	0.220	10200	1175	6
SEC T12-31	15 OPzS 1875	2	401	216	773	828	113	158	45.0	39.9	0.210	11000	1350	6
SEC T12-33	16 OPzS 2000	2	401	216	773	828	123	166	43.0	38.1	0.170	15600	1440	6
SEC T12-37	18 OPzS 2250	2	489	214	773	828	142	195	53.0	47.0	0.150	12200	1620	8
SEC T12-41	20 OPzS 2500	2	489	214	773	828	152	204	52.0	46.1	0.140	15600	1800	8
SEC T12-49	24 OPzS 3000	2	578	214	773	828	179	242	63.0	55.9	0.110	18900	2160	8

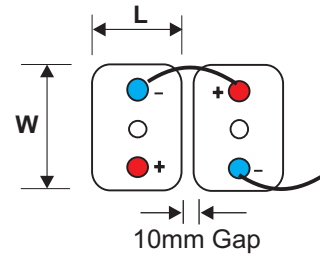
Battery information subject to change without notice

Vent Plug: Ceramic flame arrestor

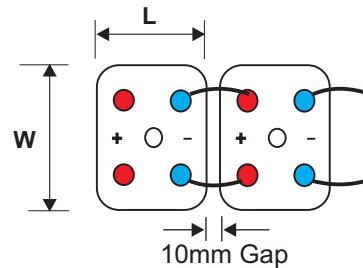


TYPICAL OUTLINE DRAWING WITH LABELS

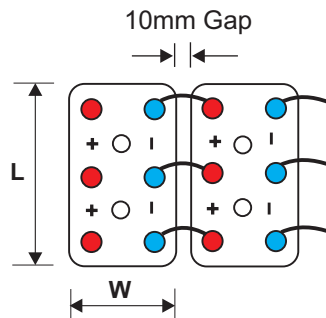
TYPICAL LAYOUT AND WIRING



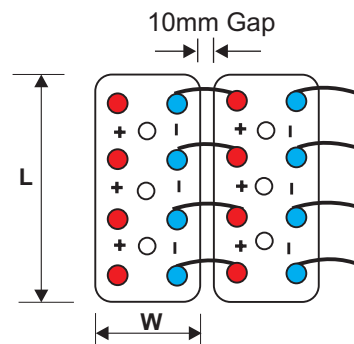
TYPE T5-05 to T10-13



TYPE T10-17 to T10-25



TYPE T12-25 to T12-33



TYPE T12-37 to T12-49

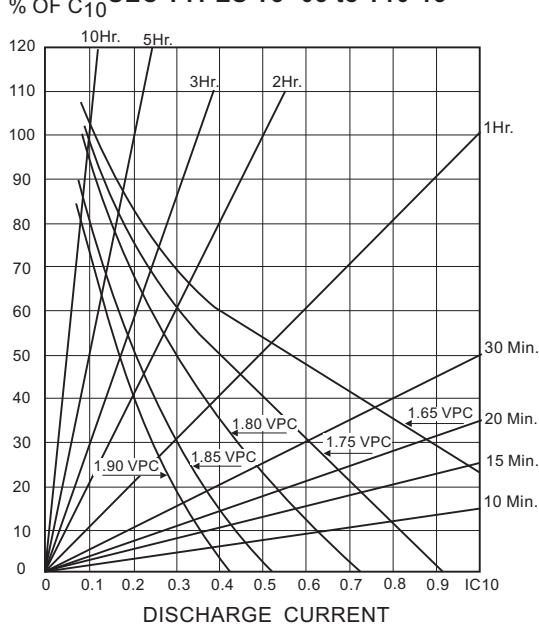


The performance of the SEC-T-RANGE of batteries meets the DIN, IEC and Public contracts specifications No. 5641 Standards.

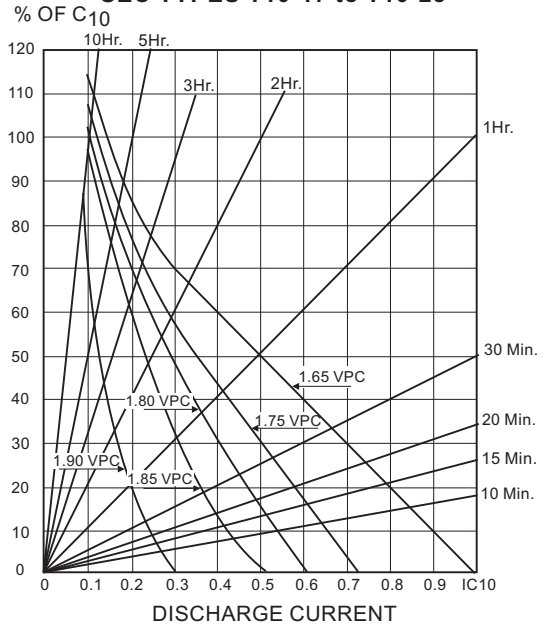
The use of tubular positive plates increases the life span of the battery, even in harsh environmental cyclic conditions

Nominal capacities in ampere hours @ 10hr. rate

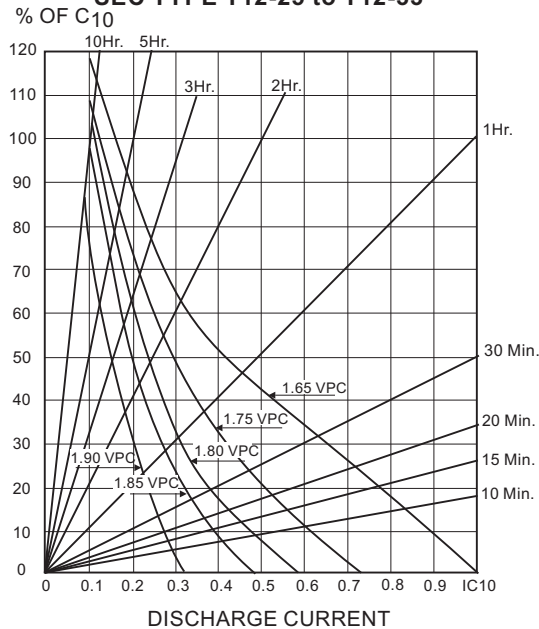
DISCHARGE CURVES FOR SEC TYPES T5- 05 to T10-13



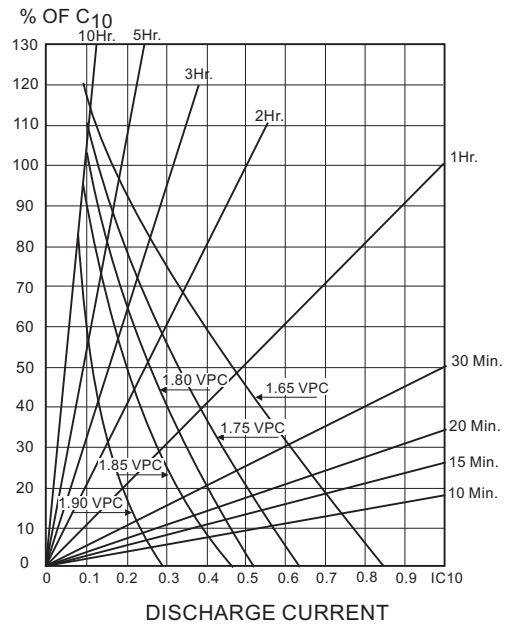
DISCHARGE CURVES FOR SEC TYPES T10-17 to T10-25



DISCHARGE CURVES FOR SEC TYPE T12-25 to T12-33



DISCHARGE CURVES FOR SEC TYPES T12-37 to T12-49



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