

▶ AGM Standard Batteries TS



Solutions for the toughest requirements

► AGM TS

The TRIATHLON® series TS in AGM technology stands for the highest requirements. AGM standard batteries are the solution for highly demanding applications.

They are universally suitable for a wide range of applications.

The high quality standard is maintained by:

- ✓ Certification according to ISO 9001 and ISO 14001
- ✓ IEC 60896 Parts 21 & 22
- ✓ Extensive final testing of the products before delivery

BATTERY FEATURES

- Sealed batteries VLRA (Valve Regulate Lead Acid) - the electrolyte is fixed in a glass fleece
- Excellent high current capability due to low internal resistance
- High power density, low space requirement
- Maintenance-free
- Safety valve protects against excessive overpressure
- Low self-discharge rate: Up to 9 months storable under normal conditions at + 20 °C
- Service life according to EUROBAT up to 5 years in standby parallel operation
- Different installation positions in vertical or horizontal position are possible
- No transport restrictions (according to IATA, DGR, set A67)

► Applications:

- Uninterruptible power supply
- Safety lighting
- Stationary backup power plants in power stations and substations
- Telecommunications
- Switchgears
- Automation technology, robot systems
- Burglary and fire alarm systems
- Wireless and radio systems
- Telemetry systems
- Signalling systems



AGM TS Technical Data

SERVICE LIFE CATEGORY 5 YEARS									
Battery type	Nominal voltage	Nominal capacity C ₂₀	Length (L)	Width (W)	Height (H)	Typical weight *	Internal resistance	max. discharge current	Connection
	V	Ah	max. mm	max. mm	max. mm	kg	mOhm	A	
TS6 - 4.5	6	4,5	70	47	106	0,70	24,0	67,5	T1 + T2
TS6 - 7	6	7,0	151	34,5	100,5	1,0	13,0	105,0	T1 + T2
TS6 - 12	6	12,0	151	50	101	1,65	12,0	180,0	T1 + T2
TS12 - 1.2	12	1,2	97,5	43,5	58	0,52	120,0	18,0	T1 - A
TS12 - 2.3	12	2,2	178	34,5	67	0,90	56,0	34,5	T1 - A
TS12 - 3.2	12	3,2	134	68	66	1,30	43,0	48,0	T1 - A
TS12 - 4	12	4,0	90	70	106	1,23	46,0	60,0	T1 + T2
TS12 - 5	12	5,0	90	70	106	1,50	28,0	75,0	T1 + T2
TS12 - 7.2 VdS	12	7,2	151	65	100	2,25	29,0	112,5	T1 + T2
TS12 - 8.5	12	8,5	151	65	100	2,35	22,0	127,5	T1 + T2
TS12 - 12 VdS	12	12,0	151	98	101	3,50	18,0	180,0	T1 + T2
TS12 - 18 VdS	12	18,0	181	77	165	5,25	13,0	277,0	T10/M5
TS12 - 25 VdS	12	25,0	167	176	127	7,40	12,0	375,0	T10/M5

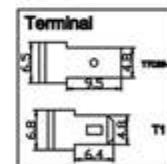
* Gewichtsangaben ± 5 %

► AGM TS: Technical Drawings

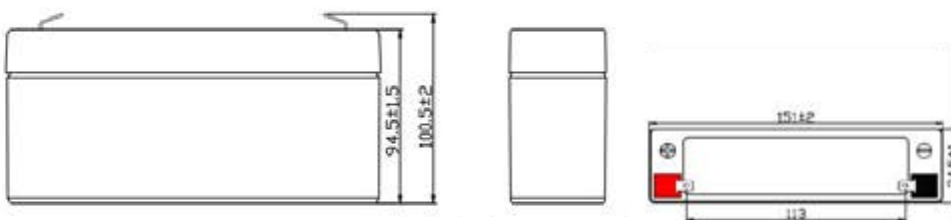
TS6 - 4.5



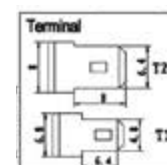
Connection T1/T2



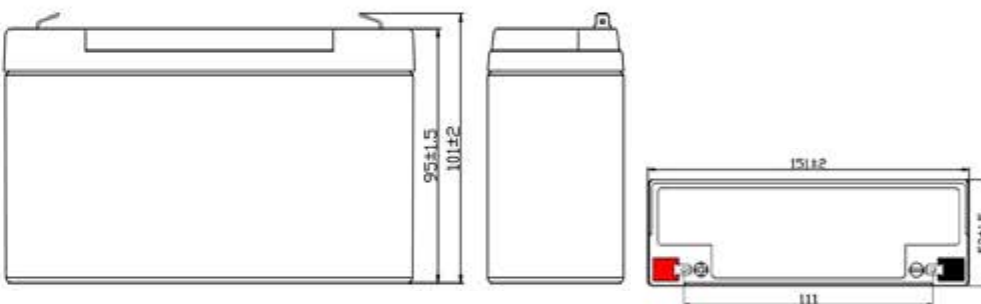
TS6 - 7



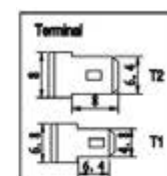
Connection T1/T2



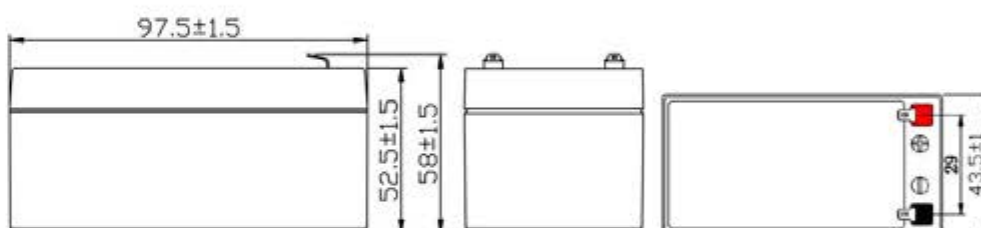
TS6 - 12



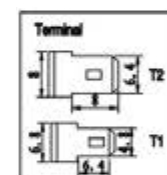
Connection T1/T2



TS12 - 1.2



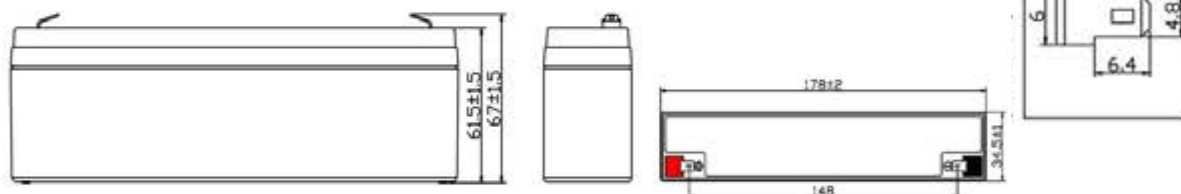
Connection T1 - A



► AGM TS: Technical Drawings

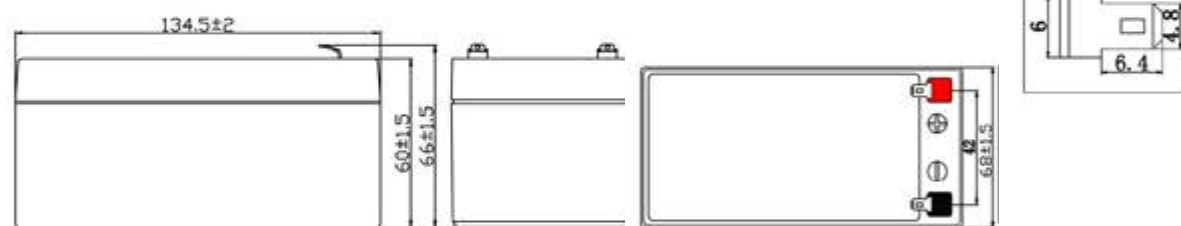
TS12 - 2.3

Connection T1 - A



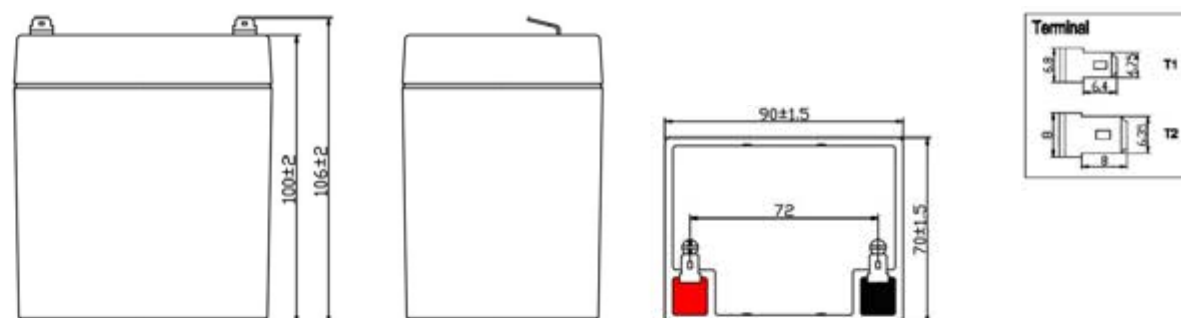
TS12 - 3.2

Connection T1 - A



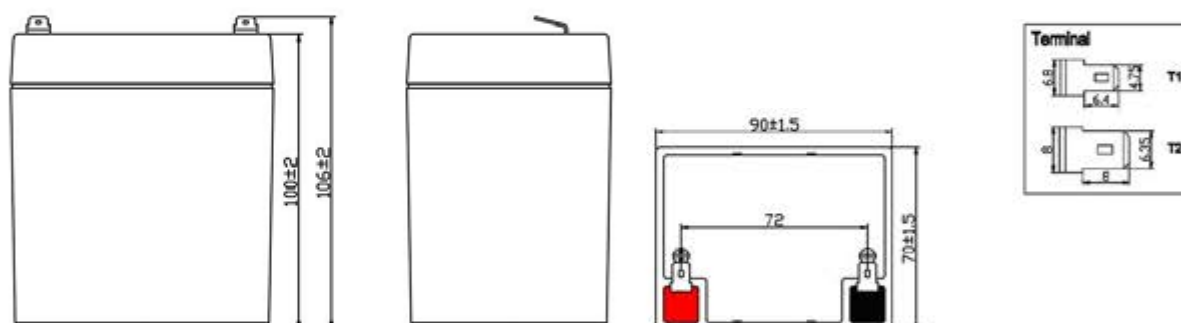
TS12 - 4

Connection T1/T2



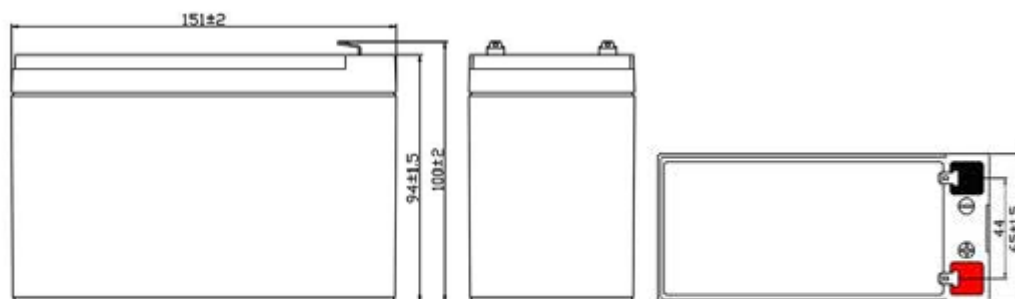
TS12 - 5

Connection T1/T2

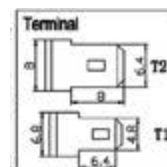


► AGM TS: Technical Drawings

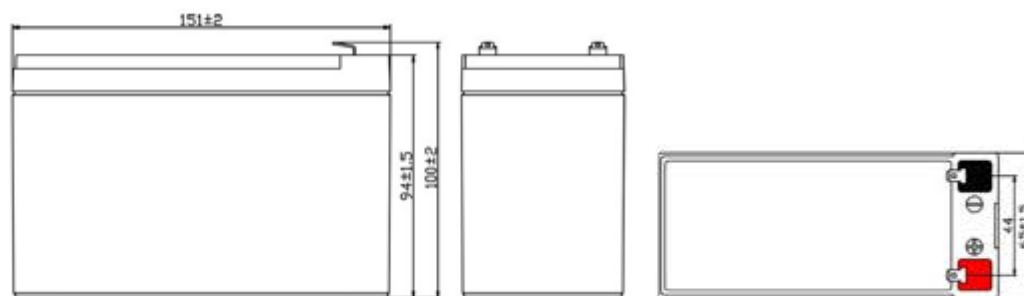
TS12 - 7.2 VdS



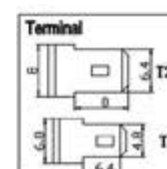
Connection T1/T2



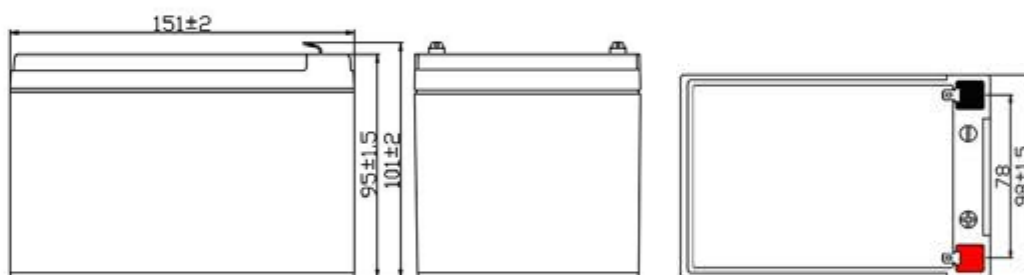
TS12 - 8.5



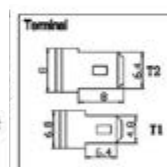
Connection T1/T2



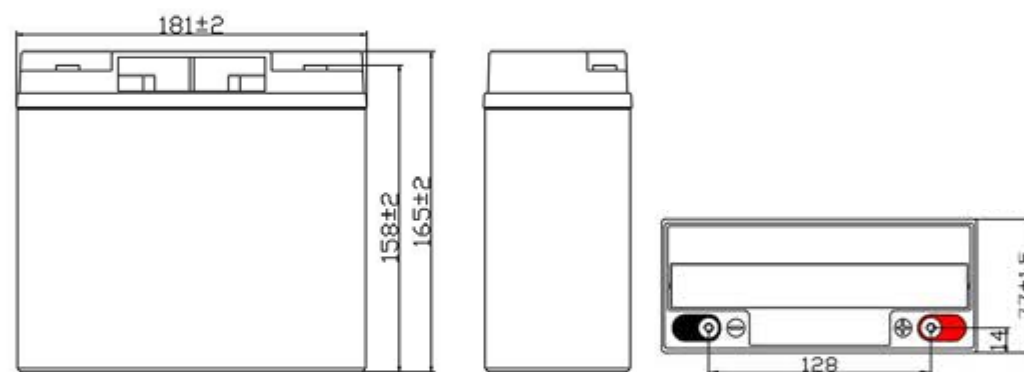
TS12 - 12 VdS



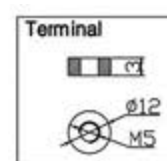
Connection T1/T2



TS12 - 18 VdS

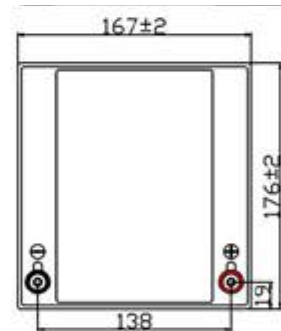
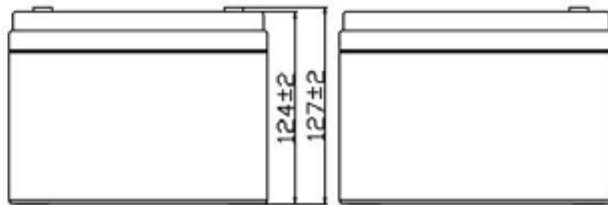


Connection T10/M5

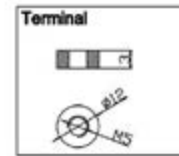


► AGM TS: Technical Drawings

TS12 - 25 VdS



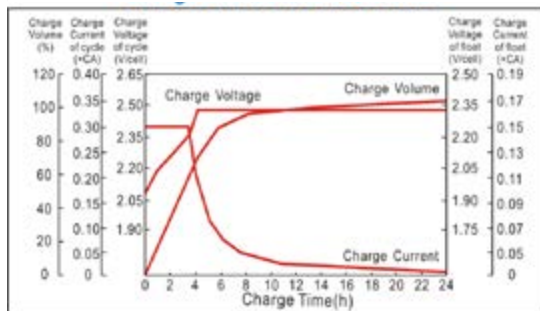
Connection T10/M5



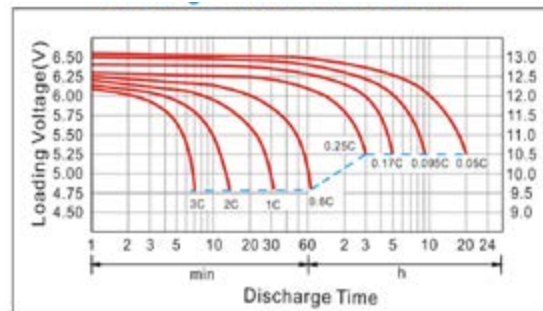
► AGM TS: Curves

0,8 - 28 Ah

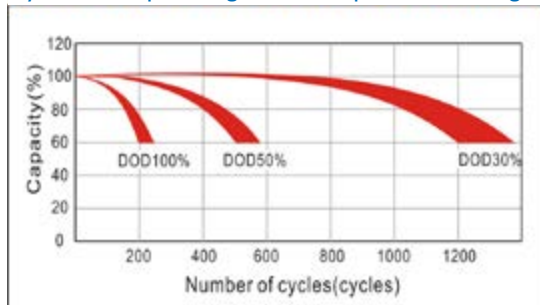
Charging Characteristics curve



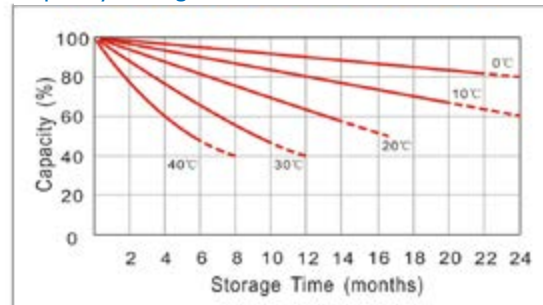
Discharge characteristics characteristic



Cycle life depending on the depth of discharge



Capacity storage characteristics



► AGM TS discharge data in Amperes

1,80 V/Z - Discharge data in Amperes at 25 °C

Type designation	5 min	10 min	15 min	30 min	60 min	2 h	3 h	5 h	8 h	10 h	20 h
TS6 - 4.5	12.20	8.883	6.831	3.955	2.616	1.500	1.123	0.767	0.506	0.428	0.218
TS6 - 7	20.20	14.70	11.31	6.545	4.330	2.482	1.747	1.194	0.788	0.665	0.340
TS6 - 12	32.54	23.69	18.22	10.55	6.977	3.999	2.994	2.046	1.350	1.140	0.582
TS12 - 1.2	3.462	2.520	1.938	1.122	0.742	0.425	0.299	0.205	0.135	0.114	0.58
TS12 - 2.3	6.347	4.620	3.553	2.057	1.361	0.780	0.549	0.375	0.248	0.209	0.107
TS12 - 3.2	8.678	6.317	4.858	2.812	1.860	1.066	0.798	0.546	0.360	0.304	0.155
TS12 - 4	11.54	8.400	6.460	3.740	2.474	1.418	0.998	0.682	0.450	0.380	0.194
TS12 - 5	16.87	11.25	8.708	4.993	3.093	1.773	1.248	0.853	0.563	0.475	0.243
TS12 - 7.2 VdS	21.64	15.75	12.11	7.013	4.639	2.659	1.871	1.279	0.844	0.713	0.364
TS12 - 8.5	29.98	20.00	15.48	8.876	5.257	3.013	2.121	1.449	0.956	0.808	0.412
TS12 - 12 VdS	36.06	26.25	20.19	11.69	7.731	4.431	3.119	2.131	1.406	1.188	0.606
TS12 - 18 VdS	53.37	38.85	29.88	17.30	11.44	6.558	4.616	3.154	2.081	1.758	0.897
TS12 - 25 VdS	67.80	49.35	37.95	21.97	14.53	8.331	6.238	4.263	2.813	2.375	1.213

1,75 V/Z - Discharge data in Amperes at 25 °C

Type designation	5 min	10 min	15 min	30 min	60 min	2 h	3 h	5 h	8 h	10 h	20 h
TS6 - 4.5	13.60	9.496	7.254	4.082	2.654	1.512	1.136	0.776	0.513	0.434	0.227
TS6 - 7	22.51	15.72	12.01	6.755	4.393	2.503	1.768	1.208	0.798	0.676	0.354
TS6 - 12	36.27	25.32	19.35	10.89	7.078	4.033	3.030	2.070	1.368	1.158	0.606
TS12 - 1.2	3.858	2.694	2.058	1.158	0.753	0.429	0.303	0.207	0.137	0.116	0.061
TS12 - 2.3	7.073	4.939	3.773	2.123	1.381	0.787	0.556	0.380	0.251	0.212	0.111
TS12 - 3.2	9.671	6.753	5.159	2.903	1.888	1.075	0.808	0.552	0.365	0.309	0.162
TS12 - 4	12.86	8.980	6.860	3.860	2.510	1.430	1.010	0.690	0.456	0.386	0.202
TS12 - 5	17.62	11.89	9.081	5.213	3.138	1.788	1.263	0.863	0.570	0.483	0.253
TS12 - 7.2 VdS	24.11	16.84	12.86	7.238	4.706	2.681	1.894	1.294	0.855	0.724	0.379
TS12 - 8.5	31.32	21.14	16.14	9.268	5.334	3.039	2.146	1.466	0.969	0.820	0.429
TS12 - 12 VdS	40.19	28.06	21.44	12.06	7.844	4.469	3.156	2.156	1.425	1.206	0.631
TS12 - 18 VdS	59.48	41.53	31.73	17.85	11.61	6.614	4.671	3.191	2.109	1.785	0.934
TS12 - 25 VdS	75.55	52.76	40.30	22.68	14.75	8.401	6.313	4.313	2.850	2.413	1.263

► AGM TS discharge data in Amperes

1,70 V/Z - Discharge data in Amperes at 25 °C

Type designation	5 min	10 min	15 min	30 min	60 min	2 h	3 h	5 h	8 h	10 h	20 h
TS6 - 4.5	15.14	10.13	7.677	4.209	2.688	1.525	1.148	0.782	0.518	0.439	0.232
TS6 - 7	25.06	16.77	12.71	6.965	4.449	2.524	1.785	1.217	0.805	0.683	0.361
TS6 - 12	40.38	27.02	20.47	11.22	7.168	4.066	3.060	2.086	1.380	1.170	0.619
TS12 - 1.2	4.296	2.874	2.178	1.194	0.763	0.433	0.306	0.209	0.138	0.117	0.062
TS12 - 2.3	7.876	5.269	3.993	2.189	1.398	0.793	0.561	0.382	0.253	0.215	0.114
TS12 - 3.2	10.77	7.204	5.460	2.993	1.912	1.084	0.816	0.556	0.368	0.312	0.165
TS12 - 4	14.32	9.580	7.260	3.980	2.542	1.442	1.020	0.695	0.460	0.390	0.206
TS12 - 5	18.36	12.41	9.410	5.371	3.178	1.803	1.275	0.869	0.575	0.488	0.258
TS12 - 7.2 VdS	26.85	17.96	13.61	7.463	4.766	2.704	1.913	1.304	0.863	0.731	0.387
TS12 - 8.5	32.63	22.06	16.73	9.548	5.402	3.064	2.168	1.477	0.978	0.829	0.439
TS12 - 12 VdS	44.75	29.94	22.69	12.44	7.944	4.506	3.188	2.173	1.438	1.219	0.645
TS12 - 18 VdS	66.23	44.31	33.58	18.41	11.76	6.669	4.718	3.215	2.128	1.804	0.955
TS12 - 25 VdS	84.13	56.28	42.65	23.38	14.93	8.472	6.375	4.345	2.875	2.438	1.290

1,60 V/Z - Discharge data in Amperes at 25 °C

Type designation	5 min	10 min	15 min	30 min	60 min	2 h	3 h	5 h	8 h	10 h	20 h
TS6 - 4.5	16.69	10.93	8.143	4.336	2.750	1.549	1.177	0.794	0.526	0.450	0.241
TS6 - 7	27.62	18.10	13.48	7.175	4.550	2.563	1.831	1.235	0.818	0.700	0.375
TS6 - 12	44.50	29.16	21.71	11.56	7.332	4.131	3.138	2.117	1.402	1.200	0.642
TS12 - 1.2	4.734	3.102	2.310	1.230	0.780	0.439	0.14	0.212	0.140	0.120	0.064
TS12 - 2.3	8.679	5.687	4.235	2.255	1.430	0.806	0.575	0.388	0.257	0.220	0.118
TS12 - 3.2	11.87	7.776	5.790	3.083	1.955	1.102	0.837	0.564	0.374	0.320	0.171
TS12 - 4	15.78	10.34	7.700	4.100	2.600	1.465	1.046	0.706	0.467	0.400	0.214
TS12 - 5	19.33	13.37	10.05	5.492	3.250	1.831	1.308	0.882	0.584	0.500	0.268
TS12 - 7.2 VdS	29.59	19.39	14.44	7.688	4.875	2.747	1.961	1.323	0.876	0.750	0.401
TS12 - 8.5	34.36	23.77	17.87	9.764	5.525	3.113	2.223	1.499	0.993	0.850	0.455
TS12 - 12 VdS	49.31	32.31	24.06	12.81	8.125	4.578	3.269	2.205	1.460	1.250	0.669
TS12 - 18 VdS	72.98	47.82	35.61	18.96	12.03	6.775	4.838	3.263	2.161	1.850	0.990
TS12 - 25 VdS	92.71	60.75	45.24	24.09	15.28	8.606	6.538	4.410	2.920	2.500	1.338

► AGM TS discharge data in Watts / cell

1,80 V/Z - Discharge data in Watts at 25 °C

Type designation	5 min	10 min	15 min	30 min	60 min	2 h	3 h	5 h	8 h	10 h	20 h
TS6 - 4.5	22.98	16.95	13.04	7.745	5.219	2.992	2.246	1.535	1.013	0.856	0.438
TS6 - 7	38.03	28.05	21.57	12.82	8.637	4.951	3.493	2.387	1.575	1.331	0.682
TS6 - 12	61.29	45.20	34.76	20.65	13.92	7.978	5.988	4.092	2.700	2.282	1.169
TS12 - 1.2	6.520	4.809	3.698	2.197	1.481	0.849	0.599	0.409	0.270	0.228	0.117
TS12 - 2.3	11.95	8.817	6.780	4.028	2.715	1.556	1.098	0.750	0.495	0.418	0.214
TS12 - 3.2	16.34	12.05	9.271	5.508	3.712	2.127	1.597	1.091	0.720	0.609	0.312
TS12 - 4	21.73	16.03	12.33	7.324	4.936	2.829	1.996	1.364	0.900	0.761	0.390
TS12 - 5	31.77	21.84	18.24	9.819	6.170	3.536	2.495	1.705	1.125	0.951	0.487
TS12 - 7.2 VdS	40.75	30.06	23.11	13.73	9.254	5.304	3.743	2.558	1.688	1.426	0.731
TS12 - 8.5	56.47	38.83	30.87	17.46	10.49	6.011	4.242	2.899	1.913	1.616	0.828
TS12 - 12 VdS	67.92	50.09	38.52	22.89	15.42	8.840	6.238	4.263	2.813	2.377	1.218
TS12 - 18 VdS	100.5	74.14	60.73	33.87	22.83	13.08	9.232	6.309	4.163	3.518	1.802
TS12 - 25 VdS	127.7	94.18	72.43	43.03	29.00	16.62	12.48	8.525	5.625	4.754	2.435

1,75 V/Z - Discharge data in Watts at 25 °C

Type designation	5 min	10 min	15 min	30 min	60 min	2 h	3 h	5 h	8 h	10 h	20 h
TS6 - 4.5	25.39	17.96	13.72	7.926	5.291	3.014	2.271	1.551	1.025	0.869	0.456
TS6 - 7	42.01	29.73	22.71	13.12	8.756	4.988	3.532	2.413	1.595	1.352	0.710
TS6 - 12	67.70	47.90	36.59	21.14	14.11	8.038	6.055	4.137	2.734	2.318	1.217
TS12 - 1.2	7.202	5.096	3.893	2.248	1.501	0.855	0.605	0.414	0.273	0.232	0.122
TS12 - 2.3	13.20	9.343	7.137	4.122	2.752	1.568	1.110	0.758	0.501	0.425	0.223
TS12 - 3.2	18.05	12.77	9.759	5.636	3.762	2.144	1.615	1.103	0.729	0.618	0.325
TS12 - 4	24.01	16.99	12.98	7.495	5.003	2.850	2.018	1.379	0.911	0.773	0.406
TS12 - 5	32.89	22.89	18.90	10.24	6.254	3.563	2.523	1.724	1.139	0.966	0.507
TS12 - 7.2 VdS	45.01	31.85	24.33	14.05	9.381	5.345	3.784	2.585	1.709	1.449	0.761
TS12 - 8.5	58.47	40.70	32.03	18.21	10.63	6.057	4.289	2.930	1.936	1.642	0.862
TS12 - 12 VdS	75.02	53.08	40.55	23.42	15.64	8.908	6.307	4.309	2.848	2.415	1.268
TS12 - 18 VdS	111.0	78.57	63.73	34.66	23.14	13.18	9.335	6.377	4.214	3.573	1.876
TS12 - 25 VdS	141.0	99.80	76.24	44.03	29.39	16.75	12.61	8.618	5.695	4.829	2.536

► AGM TS discharge data in Watts / cell

1,70 V/Z - Discharge data in Watts at 25 °C											
Type designation	5 min	10 min	15 min	30 min	60 min	2 h	3 h	5 h	8 h	10 h	20 h
TS6 - 4.5	27.89	18.83	14.40	8.102	5.354	3.037	2.291	1.562	1.033	0.878	0.465
TS6 - 7	46.15	31.15	23.82	13.41	8.860	5.026	3.564	2.429	1.607	1.365	0.724
TS6 - 12	74.37	50.20	38.39	21.61	14.28	8.099	6.110	4.164	2.755	2.340	1.240
TS12 - 1.2	7.912	5.341	4.084	2.298	1.519	0.862	0.611	0.416	0.276	0.234	0.124
TS12 - 2.3	14.50	9.792	7.487	4.214	2.785	1.580	1.120	0.763	0.505	0.429	0.227
TS12 - 3.2	19.83	13.39	10.24	5.761	3.807	2.160	1.629	1.110	0.735	0.624	0.331
TS12 - 4	26.37	17.80	13.61	7.662	5.063	2.872	2.037	1.388	0.918	0.780	0.413
TS12 - 5	33.96	23.68	19.46	10.54	6.329	3.590	2.546	1.735	1.148	0.975	0.517
TS12 - 7.2 VdS	49.45	33.38	25.52	14.37	9.493	5.385	3.819	2.603	1.722	1.463	0.755
TS12 - 8.5	60.37	42.09	33.03	18.75	10.76	6.103	4.328	2.950	1.952	1.658	0.879
TS12 - 12 VdS	82.41	55.63	42.54	23.94	15.82	8.975	6.364	4.338	2.870	2.438	1.292
TS12 - 18 VdS	122.0	82.34	66.67	35.43	23.42	13.28	9.419	6.420	4.248	3.608	1.912
TS12 - 25 VdS	154.9	104.6	79.97	45.01	29.74	16.87	12.73	8.676	5.740	4.875	2.584

1,60 V/Z - Discharge data in Watts at 25 °C											
Type designation	5 min	10 min	15 min	30 min	60 min	2 h	3 h	5 h	8 h	10 h	20 h
TS6 - 4.5	30.18	19.96	15.00	8.274	5.453	3.072	2.346	1.584	1.049	0.899	0.482
TS6 - 7	49.94	33.02	24.82	13.69	9.024	5.084	3.649	2.463	1.631	1.398	0.749
TS6 - 12	80.47	53.21	39.99	22.06	14.54	8.193	6.255	4.223	2.796	2.396	1.284
TS12 - 1.2	8.561	5.661	4.254	2.347	1.547	0.872	0.626	0.422	0.280	0.240	0.128
TS12 - 2.3	15.69	10.38	7.799	4.303	2.836	1.598	1.147	0.774	0.513	0.439	0.235
TS12 - 3.2	21.46	14.19	10.66	5.884	3.878	2.185	1.668	1.126	0.746	0.639	0.342
TS12 - 4	28.54	18.87	14.18	7.824	5.157	2.905	2.085	1.408	0.932	0.799	0.428
TS12 - 5	35.43	25.29	20.59	10.76	6.446	3.631	2.606	1.760	1.165	0.998	0.535
TS12 - 7.2 VdS	53.50	35.38	26.59	14.67	9.669	5.447	3.909	2.639	1.748	1.498	0.803
TS12 - 8.5	62.99	44.97	35.04	19.12	10.96	6.174	4.431	2.991	1.981	1.697	0.910
TS12 - 12 VdS	89.17	58.97	44.32	24.45	16.11	9.079	6.516	4.399	2.913	2.496	1.338
TS12 - 18 VdS	132.0	87.28	69.20	36.19	23.85	13.44	9.643	6.510	4.311	3.694	1.980
TS12 - 25 VdS	167.6	110.9	83.31	45.97	30.30	17.07	13.03	8.798	5.825	4.992	2.675



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