BAE SECURA SPzV

Technical Specification for Stationary VRLA – Cells

1. Application

BAE SPzV - batteries are maintenance-free and designed for a long operational life and a high operational safety. They are ideal for capacitive loads in hourly discharges as well as for discharges in the 30 minute range.

BAE SPzV - batteries are used for battery-operated power supplies in telecommunications, radio relay stations, transformer stations, emergency light equipment (VDE 0108), UPS equipment etc.

2. Types, capacities, dimensions, weights

Type	C 10	C 5	C3	C2	C 1	C 1/2	C 1/4	R_i 1)	I_{sc} 2)	lenght	mass	Lead mass
Ua	2,05V	2,03V	2,00V	1,98V	1,95V	1,86V	1,74V					
Um	1,95V	1,93V	1,90V	1,88V	1,85V	1,76V	1,64V					
Ue	1,80V	1,77V	1,75V	1,74V	1,67V	1,60V	1,50V					
	Ah	Ah	Ah	Ah	Ah	Ah	Ah	mOhm	kA	mm	kg	kg
2 SPzV 120	120	110	98	89	76	61	48	1,7	1,21	47	9	6,7
3 SPzV 180	180	165	147	133,5	114	91,5	72	1,13	1,82	65	12,6	9,4
4 SPzV 240	240	220	196	178	152	122	96	0,85	2,42	83	16,6	12,4
5 SPzV 300	300	275	245	222,5	190	152,5	120	0,68	3,03	101	20,4	15,1
6 SPzV 360	360	330	294	267	228	183	144	0,57	3,64	119	24,1	17,9
7 SPzV 420	420	385	343	311,5	266	213,5	168	0,49	4,24	137	27,9	20,7
8 SPzV 480	480	440	392	356	304	244	192	0,43	4,85	155	32	23,7
9 SPzV 540	540	495	441	400,5	342	274,5	216	0,38	5,45	173	35,5	26,3
10 SPzV 600	600	550	490	445	380	305	240	0,34	6,06	191	39,4	29,3
	cell width 198mm			cell height up to connector 370mm					reference temperature 25°C			
3 SPzV 330	330	300	274,5	246	201	156	111	0,93	2,16	65	26,2	18,8
4 SPzV 440	440	400	366	328	268	208	148	0,7	2,88	83	34,2	24,6
5 SPzV 550	550	500	457,5	410	335	260	185	0,56	3,6	101	42,3	30,5
6 SPzV 660	660	600	549	492	402	312	222	0,47	4,32	119	48,5	34,9
7 SPzV 770	770	700	640,5	574	469	364	259	0,4	5,04	137	56,9	41
8 SPzV 880	880	800	732	656	536	416	296	0,35	5,76	155	63,3	45,6
9 SPzV 990	990	900	823,5	738	603	468	333	0,31	6,48	173	73,3	52,8
10 SPzV 1100	1100	1000	915	820	670	520	370	0,28	7,2	191	80,7	58,1
	cell width 198 mm			cell height up to connector 621 mm					reference temperature 25°C			

1,2) internal resistance and short-circuit-current from IEC 60 896-2

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3. Design

positive electrode	tubular plate with corrosion-resistant PbCaSn alloy
negative plate	flate plate with long life expander and PbCaSn alloy
separation	microporous separator
electrolyte	sulphuric acid of 1,26 kg/l, fixed as GEL by fumed silica
container, lid	impact-resistant polypropylene
terminal design	100% gas- and electrolyte-tight, M10 brass inlay
connector	flexible copper cable, fully insulated, steel screw, encapsulated
valve	opening pressure 100 mbar, closing pressure 50 mbar, equipped with flame arrestor

4. Charging

IU - characteristic	I_{max} without limitation U = 2.27 V/cell ±1%, between 10 °C and 45 °C $\Delta U/\Delta T$ = -0,003 V/K below 10 °C in the monthly average
float current	20-30 mA/100 Ah
boost charge	U = 2,35 to 2,40 V/cell, time limited

5. Maintenance

every 6 months	check battery voltage, pilot cell voltage, temperature
every 12 months	record battery and cell voltages and temperatures

6. Operational data

assembling instruction	Racks or trays are needed to prevent cells from bulging. Assembling in racks or trays immediately after unpacking!
classification according to EUROBAT	> 12 years, long life
operational life	15 years at stand-by, float
maintenance-free	no topping up water during life
IEC 60 896-2 cycles	>1000 cycles
self-discharge	approx. 2,5 % per month at 25 °C
operational temperature	-20 °C to 45 °C recommended 10°C to 30 °C
deep discharge recovery	very good
test standard	IEC 60 896-21, -22
safety standard, ventilation	EN 50 272-2
transport	Batteries are not subject to ADR (road transport), if the conditions of special rule 598 (chptr. 3.3) are observed.

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