

## Technical Specification for Stationary VRLA – Cells (DIN 40 742)

### 1. Application

BAE OPzV - Batteries belong to the best EUROBAT classification for maintenance-free lead - acid - batteries: > 12 years, long life. In applications with high requirements of operational safety and bridging times of 1h to more than 10 h the BAE OPzV is the right choice.

Fields:

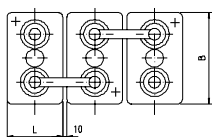
- Telecommunications
- Emergency lighting
- Microwave radio systems
- Power generation plants



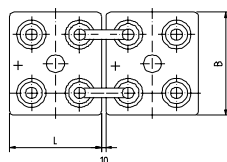
### 2. Types, capacities, dimensions, mass

Type	C10 20 °C Ah	C5 20 °C Ah	C3 20 °C Ah	C1 20 °C Ah	C8 25 °C Ah	Ri 1) mΩ	I <sub>sc</sub> 2) kA	length mm	width mm	height max mm	mass kg	lead mass kg
Ue V / Cell	1,80	1,77	1,75	1,67	1,75							
4 OPzV 200	231	205	193	133	234	1,20	1,70	105	208	420	19,5	13
5 OPzV 250	290	255	228	166	292	0,96	2,15	126	208	420	23,5	15
6 OPzV 300	350	310	273	199	350	0,80	2,57	147	208	420	28	19
5 OPzV 350	415	360	315	223	418	0,71	2,88	126	208	535	31	21
6 OPzV 420	500	435	378	268	501	0,60	3,46	147	208	535	36,5	24
7 OPzV 490	580	505	441	313	585	0,51	4,04	168	208	535	42	27
6 OPzV 600	708	615	546	383	715	0,45	4,58	147	208	710	50	34
8 OPzV 800	944	820	729	511	952	0,34	6,10	215	193	710	68	45
10 OPzV 1000	1180	1025	909	638	1192	0,27	7,63	215	235	710	82	55
12 OPzV 1200	1420	1230	1092	766	1432	0,23	9,15	215	277	710	97	65
12 OPzV 1500	1650	1395	1228	850	1664	0,24	8,58	215	277	855	120	80
16 OPzV 2000	2200	1860	1637	1134	2216	0,18	11,4	215	400	815	160	107
20 OPzV 2500	2750	2325	2046	1417	2776	0,14	14,3	215	490	815	200	133
24 OPzV 3000	3300	2790	2455	1701	3328	0,12	17,1	215	580	815	240	160

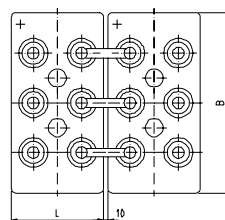
1,2) internal resistance and short - circuit - current from IEC 60896-21



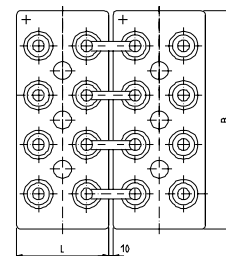
4 OPzV 200 to 6 OPzV 600



8 OPzV 800 to 12 OPzV 1500



16 OPzV 2000



20 OPzV 2500 to 24 OPzV 3000

# Technical Specification for BAE *SECURA OPzV*

## 3. Design

positive electrode	tubular - plate with a polyester gauntlet and solid grids in a corrosion-resistant PbCaSn - alloy
negative electrode	grid - plate in a PbCaSn alloy with long - life expander material
separation	microporous separator
electrolyte	sulphuric acid with a density of 1,24 kg/l, fixed as GEL by fumed silica
container	high impact, halogenfree SAN (Styrol-Acryl-Nitril), grey coloured, UL rating 94HB
lid	high impact, halogenfree SAN (Styrol-Acryl-Nitril), grey coloured, UL rating 94HB (alternatively container and lid in ABS, UL rating 94 VO)
valve	valve with flame arrestor opening pressure approx. 100 mbar, closing pressure approx. 50 mbar
pole - bushing	100% gas- and electrolyte-tight, sliding, injection-moulded Panzer pole
kind of pole	M10 brass insertion
connectors	insulated solid copper connectors with cross-section of 90, 150 or 300 mm <sup>2</sup> or flexible insulated copper cables with cross-section of 35, 50, 70, 95 or 120 mm <sup>2</sup>
kind of protection	IP 25 regarding DIN 40050, touch protected according VBG 4.
horizontal operation	Please use BAE special type OPzV „horizontal“. The construction and production of this type is adapted to the horizontal operation.

## 4. Charging

IU - characteristic	$I_{max}$ without limitation  $U = 2,25 \text{ V/cell} \pm 1\%$ , between 10°C and 45°C $\Delta U/\Delta T = -0,003 \text{ V/K}$ 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
charging time up to 90%	6 h with 1,5 x I10 initial current, 2.23 V/cell, 80% C3 discharged

## 5. Discharge characteristics

reference temperature	20°C
initial capacity	100%
depth of discharge (DOD)	normally up to 80%
deep discharges	more than 80% DOD or discharges beyond final discharge voltages (dependent on discharge current) have to be avoided

## 6. Maintenance

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

## 7. Operational data

EUROBAT classification	> 12 years, long life
operational life	20 years in stand-by operation, float
maintenance-free	no topping-up water during operational life
IEC 60 896-2 cycles	> 1500
self-discharge	approx. 2% per month at 20°C
operational temperature	-20°C to 45°C recommended 10°C to 30°C short-time 45°C to 55°C
recovery after deep discharge	very good
standard	DIN 40 742 part 1
tests according	IEC 60896 - 21
safety standard, ventilation	EN 50 272-2
transport	Batteries are not subject to ADR (road transport), if the conditions of the special rule 598 (chapter 3.3) are observed.



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