

Technical Specification for Stationary VLA-Cells

1. Application

BAE *SECURA OGi* cells are designed for reliable operation, long service life, high discharge currents during short discharge times and capacitive loads over longer discharge times.

They are used as stand-by source in power supply stations, transforming stations, UPS-stations, emergency light equipment according to VDE 0108 and VDE 0107. Due to the used grid plate design with high mass of lead and circular bars a long operational life and a very good high-current-performance can be assured. The slick-walled containers and the vertical arranged plates offer a high power density related to a small foot-print. The transparent container allows an easy visual access and simplifies service and maintenance significantly.



2. Types, capacities, dimensions, weights

Type	C_{10h} 20 °C Ah	C_{5h} 20 °C Ah	C_{3h} 20 °C Ah	C_{1h} 20 °C Ah	C_{30min} 20 °C Ah	C_{10min} 20 °C Ah	C_{8h} 25 °C Ah	R_i 1) mΩ	I_k 2) kA	Length (L) mm	Width (W) mm	Height (H) mm	Weight dry kg	Weight filled kg
U_e V/cell	1.80	1.80	1.79	1.75	1.72	1.65	1.75							
8 OGi 200	234	206	183	140	115	79	236	0.45	4.58	103	206	420	14.4	18.8
10 OGi 250	289	255	226	173	143	97	292	0.38	5.47	124	206	420	17.2	22.6
12 OGi 300	345	304	270	207	170	115	348	0.33	6.28	145	206	420	19.9	26.5
14 OGi 350	397	350	312	239	197	132	400	0.29	7.02	145	206	420	22.4	28.7
5 OGi 400	422	352	306	222	172	100	415	0.44	4.71	145	206	700	27.5	41.0
6 OGi 480	506	423	366	266	205	119	498	0.37	5.53	145	206	700	31.3	44.6
7 OGi 560	590	493	429	310	239	138	581	0.32	6.34	145	206	700	34.9	47.8
8 OGi 640	675	560	489	353	271	156	664	0.29	7.08	145	206	700	38.6	51.3
9 OGi 720	710	595	525	385	299	173	701	0.26	7.84	145	206	700	42.3	54.6
10 OGi 800	843	705	612	444	343	199	824	0.22	9.23	210	191	700	50.9	67.7
11 OGi 880	910	760	666	483	374	218	896	0.20	10.07	210	191	700	54.6	71.2
12 OGi 960	942	795	699	515	402	235	928	0.19	10.88	210	191	700	58.2	74.5
13 OGi 1040	1,090	910	792	568	431	243	1,080	0.19	10.66	210	233	700	62.7	83.5
14 OGi 1120	1,140	960	837	608	467	267	1,128	0.17	12.00	210	233	700	66.6	87.2
15 OGi 1200	1,170	990	870	635	488	278	1,160	0.17	12.28	210	233	700	70.2	90.5
16 OGi 1280	1,340	1,115	972	695	526	295	1,320	0.16	12.83	210	275	700	75.1	100.0
17 OGi 1360	1,370	1,155	1,011	734	563	321	1,360	0.14	14.31	210	275	700	78.8	103.5
18 OGi 1440	1,410	1,190	1,047	768	596	344	1,392	0.13	15.59	210	275	700	82.4	106.8
19 OGi 1520	1,590	1,330	1,164	846	659	387	1,568	0.11	18.45	210	360	675	88.7	122.0
20 OGi 1600	1,670	1,400	1,224	889	691	406	1,648	0.10	19.19	210	360	675	92.3	125.2
21 OGi 1680	1,750	1,470	1,284	932	725	425	1,728	0.10	20.08	210	360	675	95.9	128.6
22 OGi 1760	1,800	1,510	1,323	966	753	442	1,768	0.10	20.82	210	360	675	99.7	132.0
23 OGi 1840	1,820	1,540	1,353	996	780	460	1,792	0.09	21.69	210	360	675	103.5	135.3
24 OGi 1920	1,860	1,575	1,389	1,028	807	476	1,832	0.09	22.35	210	360	675	106.9	138.7
25 OGi 2000	2,080	1,745	1,521	1,104	855	497	2,048	0.09	23.05	210	440	675	112.8	154.1
26 OGi 2080	2,160	1,810	1,581	1,146	886	514	2,128	0.08	23.67	210	440	675	116.5	157.5
27 OGi 2160	2,230	1,870	1,632	1,186	918	533	2,192	0.08	24.58	210	440	675	120.2	160.8
28 OGi 2240	2,260	1,900	1,665	1,216	944	548	2,224	0.08	25.20	210	440	675	123.9	164.1
29 OGi 2320	2,290	1,935	1,701	1,248	972	567	2,264	0.08	26.10	210	440	675	127.6	167.6
30 OGi 2400	2,320	1,965	1,731	1,277	996	580	2,296	0.07	26.61	210	440	675	131.3	170.9

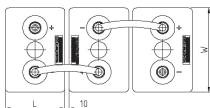
1, 2) Internal resistance R_i and short circuit current I_k according to IEC 60896-11

Height (H) is the maximum height between container bottom and top of the bolts in assembled condition.

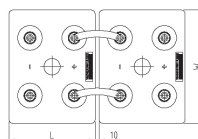
BAE *SECURA OGi* cells are also available as dry pre-charged version. They are titled with additional "TG", e.g. 30 OGi 2400 TG.

All values given in the table correspond to 100 % DOD without voltage drop of connectors. Please consider item 6.

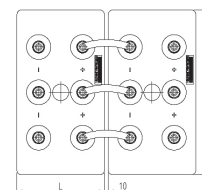
3. Terminal positions



8 OGi 200 to 9 OGi 720



10 OGi 800 to 18 OGi 1440



19 OGi 1520 to 30 OGi 2400

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4. Design

Positive electrode	grid-plate with circular bars in a corrosion-resistant low antimony alloy
Negative electrode	grid-plate in low antimony alloy with long-life expander material
Separation	microporous separator
Electrolyte	sulphuric acid with a density of 1.24 kg/l
Container	high impact, transparent SAN (Styrol-Acrylic-Nitrile), UL-94 rating: HB
Lid	high impact SAN in grey colour (colour may vary slightly from given image), UL-94 rating: HB
Plugs	labyrinth plugs for arresting aerosols, optional ceramic plugs or ceramic funnel plugs according to DIN 40740
Pole-bushing	100 % gas- and electrolyte-tight, sliding, plastic coated "Panzerpol"
Kind of pole	M10 copper insertion
Connectors	flexible insulated copper cables with cross-section of 25, 35, 50, 70, 95 or 120 mm ² ; on request: insulated solid copper connectors with cross-section 90, 150 or 300 mm ²
Connector screw	M10, steel, insulated, with measuring point
Kind of protection	IP 25 regarding EN 60529, touch protected according to VBG 4

5. Charging

IU-characteristic	I_{max} without limitation $U = 2.23 \text{ V/cell} \pm 1 \%$, between 10 °C and 30 °C (50 °F and 86 °F) in the monthly average, otherwise $\Delta U/\Delta T = -0.003 \text{ V/cell per K}$
Float current	approx. 15 mA/100 Ah C_{10} , increasing to approx. 45 mA/100 Ah C_{10} at the end of service life
Boost charge	$U = 2.33$ to 2.40 V/cell, time limited
Charging time up to 90 %	6 h with $1.5 \times I_{10}$ initial current, 2.23 V/cell, 50 % C_{10} discharged

6. Discharge characteristics

Reference temperature	20 °C (68 °F)
Initial capacity	according to IEC 60896-11: 95 % at the 1 st cycle, 100 % at the 5 th cycle
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

7. Maintenance

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

8. Operational data

Service life	20 years in stand-by operation, float at 20 °C to 25 °C (68 °F to 77 °F)
Water-refilling-interval	>3 years, float at 20 °C to 25 °C (68 °F to 77 °F)
IEC 60896-11 cycles	>1,200
Self-discharge	approx. 3 % per month at 20 °C (68 °F)
Battery temperature	-20 °C to 55 °C (-4 °F to 131 °F) recommended 10 °C to 30 °C (50 °F to 86 °F)
Standard	dimensions according to DIN 40736-1
Tests according to	IEC 60896-11
Safety standard, ventilation	EN 50272-2
Transport	Batteries are not subject to ADR (road transport), if the conditions of Special Provision 598 (Chapter 3.3) are observed. These cells/batteries are dangerous goods on sea transport. Declaration and packaging must comply with the requirements of IMDG-Codes.

Authorized Distributor



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