

Technical Specification for Stationary VLA - Cells

1. Application

BAE OGi - cells are suitable for backup power applications where operational safety and long service-life is a top priority. The OGi performs extremely well where discharge currents are required for short duration discharge times. It also works very well when these short discharge demands are coupled with continuous loads over longer duration discharge times.

BAE uses a round-grid flat-plate design for its OGi cells. Due to its excellent lead-mass and grid plate a long operational life and a very good high-current performance is realized. The sleek straight-walled containers and bridge-supported plates provide a high power-density in a compact foot-print. The transparent container allows visibility and control for easier maintenance and service.

They are used as a stand-by energy source in transmission and/or distribution substations, as well as in data centers for UPS; for emergency lighting equipment and other applications requiring higher short duration rates.

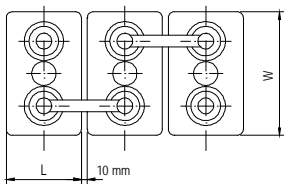


2. Types, capacities, dimensions, weights

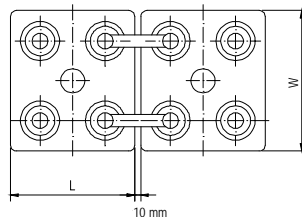
Type	1 min 25°C	C ₁ 25°C	C ₄ 25°C	C ₈ 25°C	C ₁₂ 25°C	R _i 1)	I _k 2)	Length (L)	Width (W)	Height (H)	Weight dry	Weight filled	Lead mass
U _e V/cell	Amps	Ah	Ah	Ah	Ah	mΩ	kA	inch	inch	inch	lbs	lbs	lbs
5 OGi 400	511	229	351	415	433	0.450	4.5	5.71	8.11	27.44	60.7	90.5	51.5
6 OGi 480	589	273	420	498	504	0.375	5.4	5.71	8.11	27.44	68.9	98.2	60.1
7 OGi 560	697	317	492	582	574	0.321	6.3	5.71	8.11	27.44	77.0	105.4	68.8
8 OGi 640	773	361	560	664	643	0.281	7.2	5.71	8.11	27.44	85.1	113.1	77.5
9 OGi 720	848	393	600	702	707	0.250	8.1	5.71	8.11	27.44	93.2	120.4	86.1
10 OGi 800	1130	464	700	824	855	0.225	9.0	8.27	7.52	27.44	112.3	149.3	99.2
11 OGi 880	1111	499	756	896	937	0.205	9.9	8.27	7.52	27.44	120.3	156.9	107.8
12 OGi 960	1292	537	792	928	1010	0.188	10.8	8.27	7.52	27.44	128.4	164.3	116.5
13 OGi 1040	1314	595	912	1080	1085	0.173	11.7	8.27	9.17	27.44	138.2	184.2	125.2
14 OGi 1120	1500	635	956	1128	1158	0.161	12.6	8.27	9.17	27.44	146.7	192.3	133.8
15 OGi 1200	1524	663	992	1160	1227	0.150	13.5	8.27	9.17	27.44	154.8	199.6	142.5
16 OGi 1280	1659	729	1116	1320	1281	0.141	14.4	8.27	10.83	27.44	165.6	220.4	151.2
17 OGi 1360	1683	760	1156	1360	1353	0.132	15.3	8.27	10.83	27.44	173.6	228.1	159.8
18 OGi 1440	1811	794	1192	1392	1424	0.125	16.2	8.27	10.83	27.44	181.7	235.5	168.5
19 OGi 1520	2016	873	1324	1568	1629	0.118	17.1	8.27	14.17	26.34	195.6	269.2	178.8
20 OGi 1600	2173	917	1392	1648	1701	0.113	18.0	8.27	14.17	26.34	203.6	276.6	187.4
21 OGi 1680	2259	961	1460	1728	1775	0.107	18.9	8.27	14.17	26.34	211.4	283.6	196.0
22 OGi 1760	2338	995	1504	1768	1856	0.102	19.8	8.27	14.17	26.34	219.7	291.1	204.6
23 OGi 1840	2421	1026	1536	1792	1923	0.098	20.7	8.27	14.17	26.34	228.2	298.3	213.3
24 OGi 1920	2499	1059	1572	1832	1990	0.094	21.6	8.27	14.17	26.34	235.7	305.8	222.0
25 OGi 2000	2580	1135	1740	2048	2042	0.090	22.5	8.27	17.32	26.34	248.8	339.7	230.6
26 OGi 2080	2655	1179	1808	2128	2114	0.087	23.4	8.27	17.32	26.34	256.8	347.2	239.3
27 OGi 2160	2734	1218	1864	2192	2175	0.083	24.3	8.27	17.32	26.34	265.0	354.6	248.0
28 OGi 2240	2808	1250	1896	2224	2247	0.080	25.2	8.27	17.32	26.34	273.2	361.8	256.6
29 OGi 2320	2884	1290	1932	2264	2317	0.078	26.1	8.27	17.32	26.34	281.4	369.6	265.3
30 OGi 2400	2956	1321	1964	2288	2376	0.075	27.0	8.27	17.32	26.34	289.4	376.9	274.0

1) Internal resistance from IEC 60896-11; 2) Short circuit current from IEC 60896-11; All data is subject to change. Height (H) is the maximum distance between container bottom and top of bolts in assembled condition.

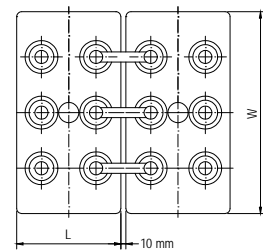
3. Terminal positions



5 OGi 400 to 9 OGi 720



10 OGi 800 to 18 OGi 1440



19 OGi 1520 to 30 OGi 2400

Technical Specification for BAE *SECURA OGi*

4. Design

Positive electrode	Round-grid flat plate with low antimony alloy, circular bars, high lead weight solid grids in a corrosion-resistant PbSbSnSe - alloy
Negative electrode	Round-grid flat plate in low antimony alloy with long-life expander material
Separation	Microporous separator
Electrolyte	Sulphuric acid with a density of 1.24 kg/l
Lid	High impact, transparent SAN (Styrol-Acrylic-Nitrile), UL-94 rating: HB
Container	High impact SAN in dark grey color, UL-94 rating: HB
Flame arrestors	Includes standard ceramic arrestors with optional ceramic flip-top funnel arrestors acc. DIN 40740 available
Pole bushing	100% gas and electrolyte tight, sliding, injection moulded "Panzerpol"
Kind of pole	M10 copper insertion
Intercell connectors	Insulated solid copper connectors with cross-sections of 90, 150 or 300 mm ² depending upon application
Inter-tier connectors	Flexible insulated copper cables
Connector screw	M10 stainless steel with insulated cap
Kind of protection	IP 25 regarding DIN 40050, touch protected according VBG 4

5. Charging

IU - characteristic	I_{max} without limitation $U = 2.23$ V/cell +/- 1%, between 10°C and 30°C (50°F and 86°F) $\Delta U/\Delta T = +/- 0.003$ V/K below 10°C in the monthly average 15mA/100Ah, increasing to 45mA/100Ah at the end of life
Float current	$U = 2.33$ to 2.40V/cell, time limited
Equalize charge	6h with $1.5 \cdot I_{10}$ initial current, 2.23 V/cell, 80% C3 discharged
Charging time up to 90%	

6. Discharge characteristics

Reference temperature	25°C (77°F)
Initial capacity	95% or better at time of delivery
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 voltage and temperature
Every 12 months	Record battery voltage, cell voltages and temperatures

8. Operational data

Operational life	20 years in stand-by operation, float at 20°C to 25°C (68°F to 77°F)
Water - refilling - interval	Up to 3 years, float at 20°C to 25°C (68°F to 77°F)
IEC 60 896-1 cycles	> 1200
Self-discharge	app. 3% per month at 20°C (68°C)
Operational temperature	-20°C to 55°C (-4°F to 131°F); recommended 10°C to 30°C (50°F to 86°F)
Standard	DIN 40736 part 1
Tests according	IEC 60896-11
Safety standard, ventilation	DIN EN 50272-2
Transport	Subject to DOT Regulations – See SDS for details

