

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.

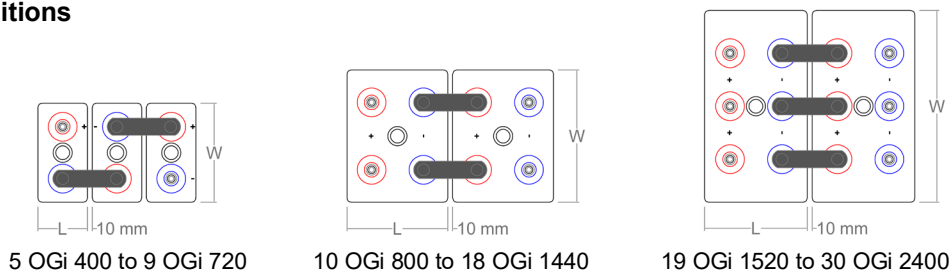


2. Types, capacities, dimensions, weights

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	482	226	352	416	456	0.45	4.5	5.71	8.11	27.44	60.7	90.5	51.5
6 OGi 480	549	271	416	496	540	0.38	5.4	5.71	8.11	27.44	68.9	98.2	60.1
7 OGi 560	647	314	488	584	636	0.32	6.3	5.71	8.11	27.44	77.0	105.4	68.8
8 OGi 640	711	359	556	664	720	0.28	7.2	5.71	8.11	27.44	85.1	113.1	77.5
9 OGi 720	801	392	596	704	756	0.25	8.1	5.71	8.11	27.44	93.2	120.4	86.1
10 OGi 800	1074	459	700	824	900	0.23	9.0	8.27	7.52	27.44	112.3	149.3	99.2
11 OGi 880	1056	493	760	896	972	0.21	9.9	8.27	7.52	27.44	120.3	156.9	107.8
12 OGi 960	1265	534	796	928	1008	0.19	10.8	8.27	7.52	27.44	128.4	164.3	116.5
13 OGi 1040	1286	591	908	1080	1176	0.17	11.7	8.27	9.17	27.44	138.2	184.2	125.2
14 OGi 1120	1410	630	960	1128	1224	0.16	12.6	8.27	9.17	27.44	146.7	192.3	133.8
15 OGi 1200	1431	658	992	1160	1248	0.15	13.5	8.27	9.17	27.44	154.8	199.6	142.5
16 OGi 1280	1547	727	1116	1320	1428	0.14	14.4	8.27	10.83	27.44	165.6	220.4	151.2
17 OGi 1360	1615	757	1156	1360	1476	0.13	15.3	8.27	10.83	27.44	173.6	228.1	159.8
18 OGi 1440	1732	792	1192	1392	1500	0.13	16.2	8.27	10.83	27.44	181.7	235.5	168.5
19 OGi 1520	1978	867	1324	1568	1704	0.12	17.1	8.27	14.17	26.34	195.6	269.2	178.8
20 OGi 1600	2051	910	1392	1648	1788	0.11	18.0	8.27	14.17	26.34	203.6	276.6	187.4
21 OGi 1680	2126	954	1460	1728	1872	0.10	18.9	8.27	14.17	26.34	211.4	283.6	196.0
22 OGi 1760	2196	988	1504	1768	1920	0.10	19.8	8.27	14.17	26.34	219.7	291.1	204.6
23 OGi 1840	2268	1023	1532	1792	1944	0.10	20.7	8.27	14.17	26.34	228.2	298.3	213.3
24 OGi 1920	2335	1056	1572	1832	1980	0.09	21.6	8.27	14.17	26.34	235.7	305.8	222.0
25 OGi 2000	2467	1132	1736	2048	2220	0.09	22.5	8.27	17.32	26.34	248.8	339.7	230.6
26 OGi 2080	2535	1175	1804	2128	2316	0.09	23.4	8.27	17.32	26.34	256.8	347.2	239.3
27 OGi 2160	2606	1214	1864	2192	2376	0.08	24.3	8.27	17.32	26.34	265.0	354.6	248.0
28 OGi 2240	2672	1246	1900	2224	2412	0.08	25.2	8.27	17.32	26.34	273.2	361.8	256.6
29 OGi 2320	2741	1282	1936	2264	2448	0.08	26.1	8.27	17.32	26.34	281.4	369.6	265.3
30 OGi 2400	2805	1313	1968	2288	2472	0.08	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



Technical Specification for BAE *SECURA OGi*

4. Design

Positive electrode	Round-grid flat plate 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 ABS in dark grey color, UL 94 rating: V-0
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

BAE Batteries USA • 484 County Road V V • Somerset WI 54025
TEL (715) 247-2262 FAX (715) 247-5741
www.baebatteriesusa.com

