

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. With its excellent lead-mass and grid plate a long operational life and very good high-current performance is realized. The sleek straight-walled containers and bridge-supported plates provide a high-power density in a compact footprint. The transparent container allows visibility for easier maintenance.

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.

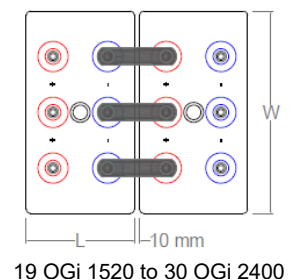
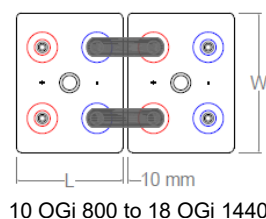
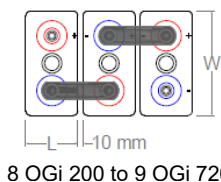


2. Types, capacities, dimensions, weights

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
8 OGi 200	599	146	196	227	237	0.49	4.24	4.06	8.11	15.95	31.7	41.4	27.9
10 OGi 250	702	181	243	281	293	0.39	5.31	4.88	8.11	15.95	38.0	49.8	33.8
12 OGi 300	803	216	290	334	349	0.33	6.36	5.71	8.11	15.95	43.9	58.3	39.7
14 OGi 350	903	250	335	385	402	0.28	7.43	5.71	8.11	15.95	49.3	63.3	45.6
16 OGi 400	1035	286	384	442	461	0.23	9.25	7.36	8.11	15.95	55.8	75.0	51.5
18 OGi 450	1131	321	430	495	516	0.20	10.3	7.36	8.11	15.95	61.3	79.8	57.4
5 OGi 400	530	230	351	415	451	0.45	4.5	5.71	8.11	27.44	60.7	90.5	51.5
6 OGi 480	614	275	420	498	542	0.38	5.4	5.71	8.11	27.44	68.9	98.2	60.1
7 OGi 560	697	319	488	582	632	0.32	6.3	5.71	8.11	27.44	77.0	105.4	68.8
8 OGi 640	773	364	560	664	722	0.28	7.2	5.71	8.11	27.44	85.1	113.1	77.5
9 OGi 720	848	397	600	702	758	0.25	8.1	5.71	8.11	27.44	93.2	120.4	86.1
10 OGi 800	1162	465	700	824	904	0.23	9.0	8.27	7.52	27.44	112.3	149.3	99.2
11 OGi 880	1142	501	756	896	973	0.21	9.9	8.27	7.52	27.44	120.3	156.9	107.8
12 OGi 960	1335	539	792	928	1004	0.19	10.8	8.27	7.52	27.44	128.4	164.3	116.5
13 OGi 1040	1359	597	912	1080	1175	0.17	11.7	8.27	9.17	27.44	138.2	184.2	125.2
14 OGi 1120	1500	637	960	1128	1224	0.16	12.6	8.27	9.17	27.44	146.7	192.3	133.8
15 OGi 1200	1524	666	992	1160	1248	0.15	13.5	8.27	9.17	27.44	154.8	199.6	142.5
16 OGi 1280	1659	733	1116	1320	1428	0.14	14.4	8.27	10.83	27.44	165.6	220.4	151.2
17 OGi 1360	1683	764	1156	1360	1476	0.13	15.3	8.27	10.83	27.44	173.6	228.1	159.8
18 OGi 1440	1811	799	1192	1392	1500	0.13	16.2	8.27	10.83	27.44	181.7	235.5	168.5
19 OGi 1520	2090	876	1324	1568	1704	0.12	17.1	8.27	14.17	26.34	195.6	269.2	178.8
20 OGi 1600	2173	920	1392	1648	1788	0.11	18.0	8.27	14.17	26.34	203.6	276.6	187.4
21 OGi 1680	2259	965	1460	1728	1872	0.10	18.9	8.27	14.17	26.34	211.4	283.6	196.0
22 OGi 1760	2338	999	1504	1768	1920	0.10	19.8	8.27	14.17	26.34	219.7	291.1	204.6
23 OGi 1840	2421	1030	1536	1792	1944	0.10	20.7	8.27	14.17	26.34	228.2	298.3	213.3
24 OGi 1920	2499	1064	1572	1832	1980	0.09	21.6	8.27	14.17	26.34	235.7	305.8	222.0
25 OGi 2000	2580	1141	1736	2048	2220	0.09	22.5	8.27	17.32	26.34	248.8	339.7	230.6
26 OGi 2080	2655	1185	1804	2128	2316	0.09	23.4	8.27	17.32	26.34	256.8	347.2	239.3
27 OGi 2160	2734	1225	1860	2192	2376	0.08	24.3	8.27	17.32	26.34	265.0	354.6	248.0
28 OGi 2240	2808	1257	1896	2224	2412	0.08	25.2	8.27	17.32	26.34	273.2	361.8	256.6
29 OGi 2320	2884	1290	1932	2264	2448	0.08	26.1	8.27	17.32	26.34	281.4	369.6	265.3
30 OGi 2400	2956	1321	1964	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
Container	High impact, transparent SAN (Styrene-Acrylonitrile), UL 94 HB rating
Lid	High impact ABS, UL 94 V-0 rating, dark grey color
Flame arrestors	Includes standard ceramic arrestors with optional ceramic flip top funnel arrestors available according to DIN 40740
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	Recommended: $I_{\max} = 2 \times I_{10}$ $U = 2.23 \text{ V/cell} \pm 1\%$, between 10°C and 30°C (50°F and 86°F) $\Delta U/\Delta T = \pm 0.003 \text{ V/K}$ below 10°C in the monthly average
Float current	15 mA/100 Ah, increasing to 45 mA/100 Ah at the end of life
Equalize charge	$U = 2.33$ to 2.40 V/cell , time limited
Charging time up to 90%	6h with $1.5 \times I_{10}$ initial current, 2.23 V/cell, 80% C3 discharged

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

8. Operational data

Operational life	20 years in standby 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	Approx. 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 to	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

