



The OGi Optima battery range is designed as a back-up power supply for loads requiring the highest level of power supply reliability.

BATER's OGi Optima batteries are quasi-VRLA batteries. Thanks to the use of pins with labyrinth seal and RecPlug2 recombination plugs with a two-way valve and flame extinguisher, BATER has developed a sealed cell with external gas recombination. The batteries have a very long service life, both in standby and cyclic operation.

Thanks to their quality, they can be used as a back-up power source in telecommunications facilities, data centres, power plants, switchgear, railway facilities, airport and seaport signalling, security lighting systems and industrial automation and control systems.

- **Q<sub>10</sub> capacity range at  $U_k=1.80V/ogn.$  at +20°C: 2V cells: 75Ah ÷ 1360Ah,**
- **dimensional compliance with DIN 40739 and DIN 40734,**
- **Service life in reserve operation: more than 20 years at +20°C, high operational reliability,**
- **low operating costs,**
- **The batteries are fitted with the patented RecPlug 2 BATER recombination plugs:**
  - **there is a low risk of explosion at VRLA battery level,**
  - **Virtually no water refilling required**



OPERATING PARAMETERS

- operating mode:  
parallel backup and buffer, battery (discharge/charge) and response system, in accordance with PN EN IEC 62485-2:2018,
- recommended IU charging characteristic according to PN EN IEC 62485-2:2018 and DIN 41773,  
maintenance charging voltage in parallel backup operation:  
2.23 V/cell ± 1% at +20°C,
- charging accelerated by increased voltage:  
a maximum charging voltage of 2.40 V/ogn. with a charging current limitation of 4 x I10,  
and a charging time of up to 24 hours; charging can be carried out at a maximum ambient temperature t < +30°C,

Charging according to IU characteristic curve 2.4 V/cell					
State of charge	Charging current I10 (10A/100Ah)				
	60%	80%	95%	100%	Full charge
Depth of discharge	Charging time [h]				
20%	< 0,5	0,5	1,5	2,6	16
40%	< 0,5	2	3,5	4,6	17
60%	2	4	5,5	6,6	18
80%	4	6	8	8,6	20
100%	6	8	10	10,6	24

- maximum  
charging current at ambient temperature: t < +25°C unlimited,  
t > +25°C the maximum charging current is 4 x I10,
- temperature correction factor of the conservation charge voltage: -2 mV/°C ÷ -4mV/°C,
- ventilation requirements - in accordance with PN EN IEC 62485-2:2018,
- operating temperature ranges:
  - recommended:
  - +15°C ÷ +25°C,
  - maximum continuous operating temperature:  
+30°C (with standard ventilation; reduced service life),
  - maximum short-term operating temperature:  
+50°C max. a few hours per year (with standard ventilation; reduced service life),
  - minimum continuous operating temperature:  
+5°C (operation at lower temperatures is not recommended due to the possibility of the battery freezing if discharged),
- self-discharge at +20 °C according to EN 60896-11 <3%/month, operating temperature ranges:
- Water topping up at RecPlug2 recombination plugs - not required,
- the batteries are mounted on metal bases manufactured by BATER and coated with polyethylene using the fluidisation method with 100% corrosion resistance with a 7kV resistance to flashover.





## STANDARDS AND CERTIFICATES

- complies with DIN EN 60896, DIN 40739, DIN 40734
- installation and operation in accordance with PN-EN IEC 62485-4:2018
- Manufactured in accordance with ISO 9001 and ISO 14001.

## CONSTRUCTION

- **positive plate** - made using paste technology to guarantee high porosity of the active mass. The gratings are die-cast from low-antimony lead with the addition of substances to prevent the formation of crystalline structures. This ensures homogeneity of the lead alloy throughout the grille.
- **negative plate** - made using paste technology to guarantee high porosity of the active mass. The gratings are die-cast from low-antimony lead with the addition of substances to prevent the formation of crystalline structures. This ensures homogeneity of the lead alloy throughout the grille.
- **separators** - special material of microporous glass fibre
- **container** - made of transparent, high-strength SAN (Styrene Acrylonitrile) plastic, allowing the electrolyte level to be easily and quickly assessed,
- **lid** - made of grey high-strength ABS plastic. Special gaskets around the pins prevent electrolyte loss during transport and operation; the lid and pot are glued together to ensure a perfect seal of the cell,
- **pole pins with labyrinth seal** - meet the leakage requirements for VRLA cells; corrosion-resistant, made of lead alloy with a brass core to reduce resistance and increase maximum current,
- **intercell connectors** - rigid copper fully insulated, bolted with insulated bolts with a measuring hole,
- **RecPlug2 recombination plugs** - cause the gases (hydrogen and oxygen) produced during cell operation to combine and return to the cell in the form of water, thus virtually eliminating water loss, reducing ventilation requirements and the risk of explosion (on request we can equip the cell with ceramic plugs or RecPlug1 recombinators),
- **electrolyte** - a chemically pure sulphuric acid solution with a specific gravity of  $1.24\text{kg}/\text{dm}^3$  at  $+20^\circ\text{C}$  at maximum level in a fully charged cell.

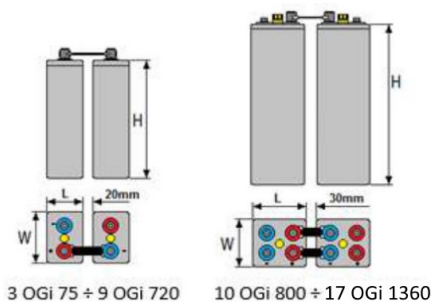
**On request, we make cells with a hole that allows the electrolyte to be tested without removing the recombination plug.**



Ip	Type cells	Nap.	Capacity					Curren Charge	Debt	Lat.	Height	Mass	
			$Q_{10}^{(2)}$	$Q_5$	$Q_3$	$Q_1$	$Q_{zn}^{(1)}$					Dry +/- 5%	Wet +/- 5%
			Uk= 1.80 v/ogn.	Uk= 1.75 v/ogn.	Uk= 1.75 v/ogn.	Uk= 1.67 v/ogn.	Uk= 1.80 v/ogn.	$I_{zn}^{(1)}$	L	W	H		
[V]	[Ah]					[A]	[mm].			[kg]			
1	3 OGi 75	2	80	75	58	53	75	7,5	103	206	369	7,21	10,72
2	4 OGi 100	2	106	99	88	68	100	10	103	206	369	8,45	11,95
3	5 OGi 125	2	138	126	113	82	125	12,5	103	206	369	9,79	13,50
4	6 OGi 150	2	168	149	134	99	150	15	124	206	369	11,54	15,35
5	7 OGi 175	2	194	173	156	115	175	17,5	124	206	369	12,57	16,28
6	8 OGi 200	2	231	202	179	131	200	20	145	206	369	14,32	18,85
7	5 OGi 250	2	271	248	224	163	250	25	124	206	485	17,72	22,46
8	6 OGi 300	2	322	298	269	196	300	30	145	206	485	22,97	26,37
9	7 OGi 350	2	374	346	298	233	350	35	145	206	485	22,56	29,05
10	5 OGi 400	2	408	398	310	251	400	40	145	206	660	27,81	41,72
11	6 OGi 480	2	492	417	352	272	480	48	145	206	660	31,73	45,43
12	7 OGi 560	2	576	476	391	316	560	56	145	206	660	35,44	48,72
13	8 OGi 640	2	661	556	476	346	640	64	145	206	660	39,25	52,33
14	9 OGi 720	2	700	595	515	385	720	72	191	210	660	43,06	55,73
15	10 OGi 800	2	829	689	586	429	800	80	191	210	660	51,92	69,22
16	11 OGi 880	2	896	756	653	476	880	88	233	210	660	55,73	72,83
17	12 OGi 960	2	928	788	685	656	960	96	233	210	660	59,44	76,22
18	13 OGi 1040	2	1076	896	776	776	1040	104	275	210	660	64,07	85,49
19	14 OGi 1120	2	1126	946	826	826	1120	112	275	210	660	68,09	89,31
20	15 OGi 1200	2	1156	976	856	856	1200	120	275	210	660	71,80	92,70
21	16 OGi 1280	2	1281	1106	963	976	1280	128	275	210	660	76,84	102,49
22	17 OGi 1360	2	1356	1136	993	1006	1360	136	275	210	660	80,65	106,09

(1) Rated parameters in accordance with DIN 40739 and DIN 40734

(2)  $Q_{10}$  capacity after 10 cycles



3 OGi 75 + 9 OGi 720

10 OGi 800 + 17 OGi 1360

**BATTERY BASES.**

We manufacture corrosion-resistant all types of bases for OGi classic batteries. The bases are made of square profile and coated with polyethylene by fluidisation. We design the base according to the customer's documentation or make our own design individually according to the dimensions of the target room.

**CONSTRUCTION**

- construction: from closed metal sections. Manufactured sets are fully welded,
- corrosion protection: protected from the electrolyte by an excellent quality polyethylene coating over 1 mm thick, applied in a fluidised bed reactor on our state-of-the-art process line,
- resistance to electrostatic breakdown: more than 7kV, separation from the substrate:
- \*height-adjustable footplate or
- \*ABS insulators adjustable in height
- Arrangement of the links: on support brackets whose spacing can be adapted to their width. The universal design of the racks allows the use of additional supports, for links weighing more than 200 kg.



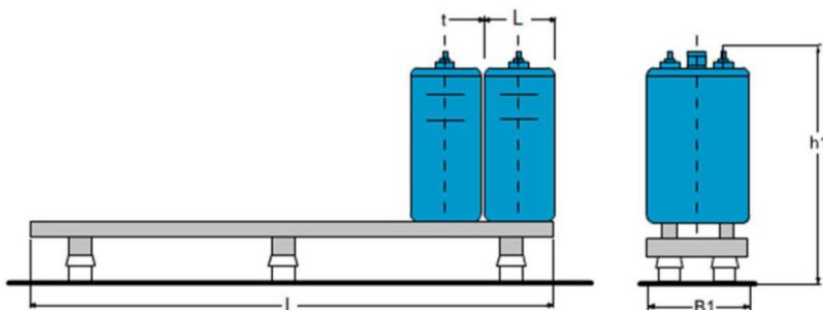
## TECHNICAL SPECIFICATIONS AND DIMENSIONS OF BASES

Lp	Cell type	B1	B2	h1	t
1	3 OGi 75	250	500	610	20
2	4 OGi 100	250	500	610	20
3	5 OGi 125	250	500	610	20
4	6 OGi 150	250	500	610	20
5	7 OGi 175	250	500	610	20
6	8 OGi 200	250	500	610	20
7	5 OGi 250	250	500	725	30
8	6 OGi 300	250	500	725	30
9	7 OGi 350	250	500	725	30
10	5 OGi 400	250	500	940	30
11	6 OGi 480	250	500	940	30
12	7 OGi 560	250	500	940	30
13	8 OGi 640	250	500	940	30
14	9 OGi 720	250	500	940	30
15	10 OGi 800	250	470	940	30
16	11 OGi 880	250	470	940	30
17	12 OGi 960	250	470	940	30
18	13 OGi 1040	320	550	940	30
19	14 OGi 1120	320	550	940	30
20	15 OGi 1200	320	550	940	30
21	16 OGi 1280	320	640	940	30
22	17 OGi 1360	320	640	940	30

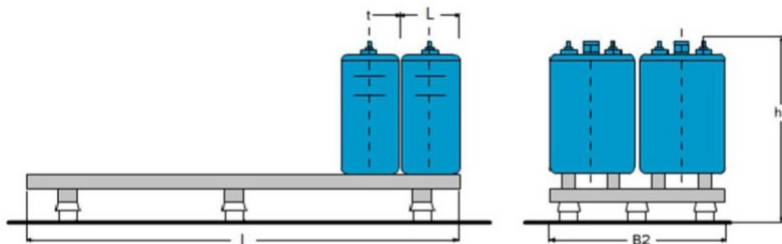
$$l = N \times (L + t)$$

(N - number of cells)

### Single-row base



### Two-row base





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