



VRLA BATTERY PRODUCT MANUAL



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Ritar---Listed in Nasdaq

China Ritar Power Corp. is a Sealed Lead Acid (SLA) battery company listed in Nasdaq. Established in May 2002, Ritar manufactures and sells environmentally friendly Sealed Lead Acid (SLA) batteries. Ritar introduces and develops advanced technology, and adopts the world's most advanced production equipments and testing measures to ensure long product life, high energy density, and environmental protection features such as cadmium-free, leading the domestic counterparts.

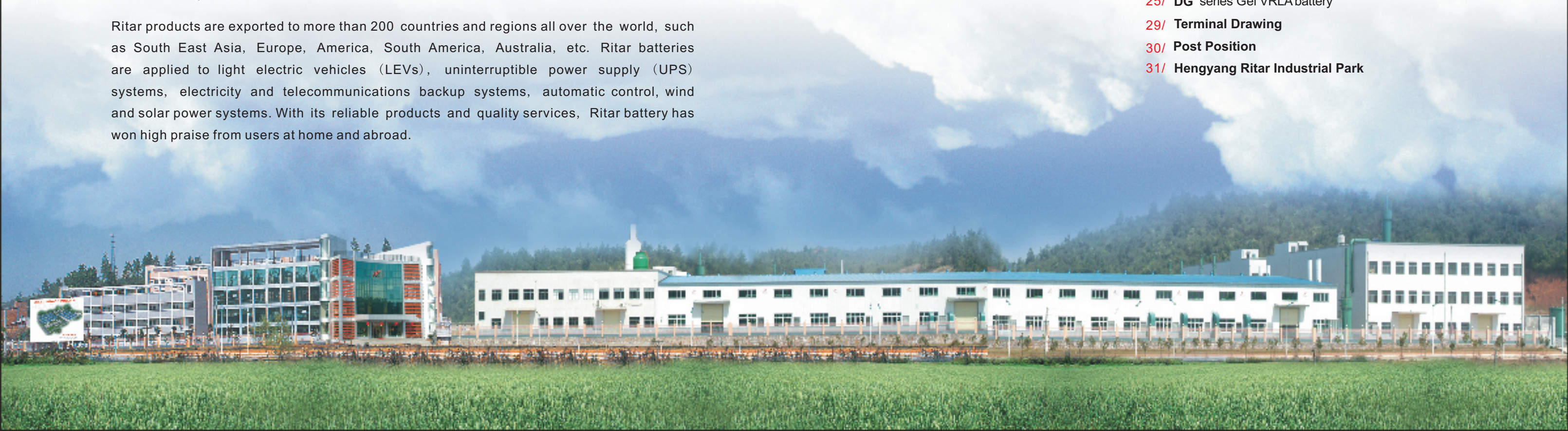
The company is a high-tech enterprise headquartered in Nanshan District, Shenzhen, China, and has a manufacturing base in Fuyong Town, Shenzhen and a new industrial park in Hengyang, Hunan Province. It has approximately 2,000 employees, including two professors who have experience over 40 years in batteries research, and over 50 research engineers. Ritar also has invested strongly in domestic and foreign institutions and scientific research institutions to overcome difficulties in battery technology. The performance of the batteries independently researched and developed by Ritar has met and exceeded international standards, and a variety of technologies have been granted national and international patents.

Ritar products are exported to more than 200 countries and regions all over the world, such as South East Asia, Europe, America, South America, Australia, etc. Ritar batteries are applied to light electric vehicles (LEVs), uninterruptible power supply (UPS) systems, electricity and telecommunications backup systems, automatic control, wind and solar power systems. With its reliable products and quality services, Ritar battery has won high praise from users at home and abroad.



Contents:

- 01/ **RT** series VRLA battery
- 03/ **RA** series VRLA battery
- 05/ **RL** seires VRLA battery
- 07/ **RL-L** seires VRLA battery
- 09/ **FT** series VRLA battery
- 11/ **EV** series VRLA battery
- 13/ **HR** series VRLA battery
- 15/ **DC** series VRLA battery
- 19/ **OPzS** series Flooded Tubular battery
- 23/ **OPzV** series Tubular Gel VRLA battery
- 25/ **DG** series Gel VRLA battery
- 29/ **Terminal Drawing**
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HR Series

Summary

HR (High Rate) series is especially designed for heavy load discharge applications with 5 to 10 years design life in float service. By using strong grids and specially designed active material the HR series offers stable performance during high current discharge. The HR series offers 30% more power output than the standard range. Suitable for UPS/EPS where high current loads are required.

Product Features

- Capacity range : 4.5Ah-240Ah
- Voltage class : 6V/12V
- Long design life (25 °C) : 5 years(≤28Ah)
10 years(>28Ah)
- Low self-discharge rate : ≤ 3%/month
- Good high rate discharge performance
- High sealed reaction efficiency : ≥ 99%
- Wide operation temperature range : -20°C ~60°C
- Structure: compact design, shorter internal connectors between cells, thus low internal resistance
- Plate: Pasted flat type, with patent high rate formula of AM
- Terminal: two or more types terminals are convenient for selection
- Safety valve: flame arrester / filter is equipped with safety valve system.
- Separator: using improved AGM separator, makes lower resistance higher assembling pressure to increase deep cycle life;
- Battery case: made of high strength ABS(UL94-HB) and UL94-V0 is optional;
- Terminal sealing: double sealing technics(mechanical + epoxy gule).

* HS battery:

Container and lid is sealed with heat seal technology; automatic through the-partition welding between inter-cell.

Application

- UPS/EPS
- Electric Tools
- Toys
- Medical
- Wheelchair
- Security System

Compliant Standards

- GB/T19638.2-2005
- YD/T799-2002
- JIS C8704-2006
- IEC 60896-21/22-2004
- Passed ISO9001, ISO14001, OHSAS18001, UL, CE certificate

Main Parameters

Model	Watts/cell @15min (1.67Vpc)	Nominal Voltage (V)	Weight		Terminal Type	Dimension								Internal Resistance (mΩ@25°C)	Short Circuit Current (A)	Terminal Position
			Lbs	Kg		Length		Width		Height		Total Height				
						mm	inch	mm	inch	mm	inch	mm	inch			
HR6-16W	16	6	1.59	0.72	F1/F2	70	2.76	47	1.85	99	3.90	105	4.13	20	223	A
HR6-18W	18	6	1.65	0.75	F1/F2	70	2.76	47	1.85	99	3.90	105	4.13	20	251	A
HR6-20W	20	6	1.76	0.8	F1/F2	70	2.76	47	1.85	99	3.90	105	4.13	18	278	A
HR6-22W	22	6	1.76	0.8	F1/F2	70	2.76	47	1.85	99	3.90	105	4.13	16	306	A
HR6-28W	28	6	2.65	1.2	F2	151	5.94	34	1.34	94	3.70	100	3.94	10	390	C
HR6-32W	32	6	2.87	1.3	F2	151	5.94	34	1.34	94	3.70	100	3.94	10	445	C
HR6-36W	36	6	2.98	1.35	F2	151	5.94	34	1.34	94	3.70	100	3.94	8	450	C
HR6-630W	630	6	57.33	26	F12	260	10.24	180	7.09	247	9.72	252	9.92	2		A
HR6-850W	850	6	72.77	33	F14	243	9.57	187	7.36	275	10.83	275	10.83	1.7	3850	B
HR12-16W	16	12	3.09	1.4	F1/F2	90	3.54	70	2.76	101	3.98	107	4.21	35	225	C
HR12-18W	18	12	3.53	1.6	F1/F2	90	3.54	70	2.76	101	3.98	107	4.21	35	250	C
HR12-20W	20	12	3.75	1.7	F1/F2	90	3.54	70	2.76	101	3.98	107	4.21	30	275	C
HR12-20WB	21	12	4.08	1.85	F1/F2	151	5.94	50	1.99	95	3.74	101	3.98	25	270	F
HR12-22W	22	12	3.64	1.65	F1/F2	90	3.54	70	2.76	101	3.98	107	4.21	25	280	C
HR12-28W	28	12	4.85	2.2	F2	151	5.94	65	2.56	94	3.70	100	3.94	18	390	F
HR12-32W	32	12	5.25	2.38	F2	151	5.94	65	2.56	94	3.70	100	3.94	18	440	F
HR12-32WB	32	12	5.18	2.35	F2	151	5.94	65	2.56	94	3.70	100	3.94	18	415	F
HR12-36W	36	12	5.73	2.60	F2	151	5.94	65	2.56	94	3.70	100	3.94	18	450	F
HR12-38W	38	12	5.62	2.55	F2	151	5.94	65	2.56	94	3.70	100	3.94	18	445	F
HR12-48W	45	12	9.26	4.2	F2	151	5.94	98	3.86	94	3.70	100	3.94	12	660	F
HR12-48WB	48	12	7.72	3.5	F2	151	5.94	98	3.86	94	3.70	100	3.94	14	620	F
HR12-50W	50	12	9.26	4.2	F3/F13	181	7.13	77	3.03	167	6.57	167	6.57	14	700	D
HR12-60W	60	12	10.25	4.65	F3/F13	181	7.13	77	3.03	167	6.57	167	6.57	14	780	D
HR12-68W	68	12	10.80	4.9	F3/F13	181	7.13	77	3.03	167	6.57	167	6.57	12	820	D
HR12-70W	70	12	12.35	5.6	F3/F13	181	7.13	77	3.03	167	6.57	167	6.57	12	860	F
HR12-80W	80	12	13.67	6.2	F3/F13	181	7.13	77	3.03	167	6.57	167	6.57	12	900	D
HR12-88W	88	12	13.89	6.3	F18	181	7.13	76	2.99	166	6.54	166	6.54	10	920	D
HR12-96W	96	12	17.86	8.1	F13	166	6.54	178	7.01	125	4.92	125	4.92	8	950	D
HR12-104W	104	12	18.96	8.6	F13	166	6.54	178	7.01	125	4.92	125	4.92	8	980	D
HR12-125W	125	12	22.49	10.2	F11	195	7.68	130	5.12	155	6.10	156	6.14	9	930	C
HR12-150WL	150	12	28.67	13	F11	198	7.80	166	6.54	171	6.73	171	6.73	7.5	1100	D
HR12-200WL	200	12	39.69	18	F11	229	9.02	138	5.43	211	8.31	216	8.50	5.7	1350	C
HR12-240WL	240	12	46.31	21	F11	350	13.78	167	6.57	182	7.17	182	7.17	5.5	1650	C
HR12-280WL	280	12	54.68	24.8	F11	260	10.24	169	6.65	211	8.31	218	8.58	6	1850	C
HR12-350WL	350	12	63.95	29	F12	306.5	12.07	168.5	6.63	210	8.27	215	8.46	5	2100	C
HR12-380WL	380	12	70.56	32	F12	328	12.91	172	6.77	215	8.46	220	8.66	4	2350	C
HR12-380WSL	380	12	69.46	31.5	F12	306.5	12.07	168.5	6.63	210	8.27	215	8.46	4.5	2550	C
HR12-450WL	450	12	83.79	38	F12	407	16.02	177	6.97	225	8.86	225	8.86	4	3000	C
HR12-520WL	520	12	94.82	43	F12	340	13.39	173	6.81	280	11.02	287	11.30	4.5	2900	C
HR12-570WL	570	12	101.43	46	F12	483	19.02	170	6.69	241	9.49	241	9.49	3.8	3100	C
HR12-570WSL	570	12	99.20	45	F12	340	13.39	173	6.81	280	11.02	287	11.30	3.9	2900	C
HR12-650WL	650	12	137.8	62.5	F10	522	20.55	240	9.45	219	8.62	224	8.82	3.6	3850	E
HR12-690WL	690	12	143.33	65	F10	522	20.55	240	9.45	219	8.62	224	8.82	3.5	4050	E
HR12-780WL	780	12	164.3	74.5	F10	522	20.55	240	9.45	219	8.62	224	8.82	3	4200	E