

Tubular Gel (SOPzV) Batteries

Stationary & Renewable Energy Applications



BATTERIES



SOLAR PV



WIND



GENSET



GRID



Overview

Advanced Maintenance-Free Tubular Plate GEL Batteries for Renewable Energy Storage

Discover® RE Tubular Gel (SOPzV) batteries provide maximum efficiency per discharge-charge cycle, and proven reliability in remote, high temperature, or unstable power installations.

The proven cycle and float of Discover Advanced Tubular Plate technology, combined with maintenance-free needs, provides end users with the lowest overall cost of ownership versus other high quality lead acid batteries designed for stationary and renewable energy applications.

Applications

- Emergency lighting
- Mini-grids
- Power generation & distribution
- Residential installations
- Transportation signaling
- Telecommunications
- Traffic systems
- UPS systems
- Utilities

Benefits & Features

Long Cycle Life

Tubular positive plates and special alloy compositions offer superior cycle and service life in Renewable Energy and stationary applications.

Performance and Reliability

High optimized design, high quality raw materials, and state-of-the-art production facilities ensure industry leading performance that exceeds all applicable international standards.

Maintenance-Free

Maintenance-free design without water topping-up needs.

Safety

Compliant with global standards and verified by independent third party certification agencies.

Complete Solution

Complete and ready to install systems with all the necessary accessories for installation in trays.

Optimum Total Cost of Ownership

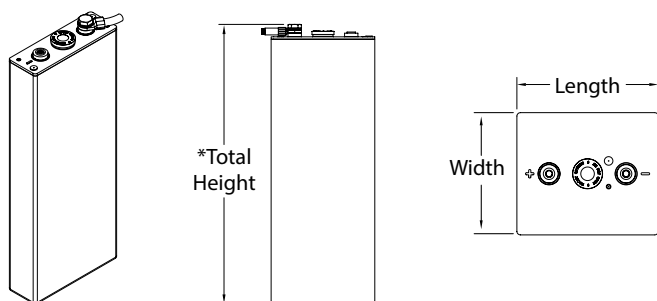
Lower cost of ownership than other non-tubular plate maintenance-free lead acid technologies.

Product Range

Type No.	NOMINAL CAPACITY					Kilo-Watt Hours (120 HRS)	Poles	MECHANICAL CHARACTERISTICS							
	240 HR	120 HR	100 HR	20 HR	10 HR			Length		Width		Height*		Weight	
	1.85VPC at 20°C / 68°F			1.75VPC at 27°C / 80°F				IN	MM	IN	MM	IN	MM	LB	KG
2 VOLT CELLS															
2VRE2-300TG	169	167	165	133	121	0.33	2	7.8	198	1.9	47	14.6	370	20	9
2VRE3-500TG	253	251	247	200	182	0.50	2	7.8	198	2.6	65	14.6	370	28	13
2VRE2-600TG	314	312	307	248	225	0.62	2	7.8	198	1.9	47	23.4	595	34	16
2VRE3-1000TG	506	501	494	400	363	1.00	2	7.8	198	2.6	65	23.4	595	49	22
2VRE4-1300TG	675	669	659	533	484	1.34	2	7.8	198	3.3	83	23.4	595	63	29
2VRE5-1700TG	844	836	823	667	605	1.67	2	7.8	198	4.0	101	23.4	595	78	36
2VRE6-2000TG	1013	1003	988	800	726	2.01	2	7.8	198	4.7	119	23.4	595	94	43
2VRE7-2300TG	1182	1170	1153	933	847	2.34	2	7.8	198	5.4	137	23.4	595	108	49
2VRE8-2700TG	1350	1337	1317	1067	968	2.67	2	7.8	198	6.1	155	23.4	595	123	56
2VRE7-2800TG	1397	1383	1362	1103	1001	2.77	2	7.8	198	6.1	155	29.1	740	134	61
2VRE8-3200TG	1596	1580	1557	1260	1144	3.16	2	7.8	198	6.1	155	29.1	740	151	69
24 VOLT BLOCKS															
24VRE7-28000TG	1182	1170	1153	933	847	28.08	24	32.6	827	17.0	432	24.7	627	1296	588
24VRE8-38000TG	1596	1580	1557	1260	1144	37.93	24	32.8	832	19.3	490	30.9	784	1812	822

*Includes installed connectors and shrouds.

Drawings



Certified Quality

- Certified with ISO 9001, ISO 14001, BS OHSAS 18001.
- Compliant with IEC 61427 requirements for photovoltaic energy systems.
- Tested according to IEC 60896-21 and fully compliant with IEC 60896-22 requirements.
- Compliant with the safety requirements of EN 50272-2.

The ideal energy solution for Stationary & RES applications

Technical Benefits & Features

1 Positive Plates

- Tubular plate design
- Optimized lead calcium tin alloy reducing hydrogen evolution
- Red lead in-house production by 99.9% pure lead
- Dry filling process

- ✓ Long cycle life
- ✓ Excellent cycling properties
- ✓ Quality and homogeneity
- ✓ High capacity performance
- ✓ Reduced self-discharge rate
- ✓ Reduced corrosion
- ✓ Increased tolerance even in cases of poor charging conditions
- ✓ Wide operational temperature range

2 Negative Plates

- Pasted negative plates of grid design
- Paste mixture that ensures high adherence and cohesion
- Optimized corrosion resistant lead calcium tin alloy
- Robust construction
- Long life expander

- ✓ Stability
- ✓ Increased cyclic performance
- ✓ Long battery life

3 Separators

- Manufactured from microporous silica-based PVC material
- Allow migration of ions during charge/discharge
- More acid in the surrounding area of the plates

- ✓ Secured protection against short circuits
- ✓ High temperature stability
- ✓ Mechanical strength
- ✓ Low internal resistance

4 Gauntlet

- Highly microporous material
- Fine pore structure
- Low electrical resistance

- ✓ Effective active material retention
- ✓ Eliminates active mass shedding

5 Bottom Bar

- Ultrasonic welding

- ✓ Secure fit to the gauntlet
- ✓ Growth of positive spine into bottom bar's cavity is easily accommodated
- ✓ Retains active material on the spines

6 Electrolyte

- Sulphuric acid immobilized in GEL form
- State of the art GEL filling equipment
- High purity silica for GEL formation
- Effective diffusion of GEL

- ✓ Operation without acid stratification or dendrite growth
- ✓ High performance on deep discharges
- ✓ Low self discharge

7 Cell Container

- High impact resistant Polypropylene for the container
- Lid welding, trimming and tightness control

- ✓ Long term leakage free operation
- ✓ Unsurpassed mechanical strength
- ✓ Robust and durable battery construction

8 Valve

- Maintenance-free design
- Pressure relief
- Integral flame arrestor

- ✓ No topping-up required
- ✓ Increased safety

9 Pole Terminal

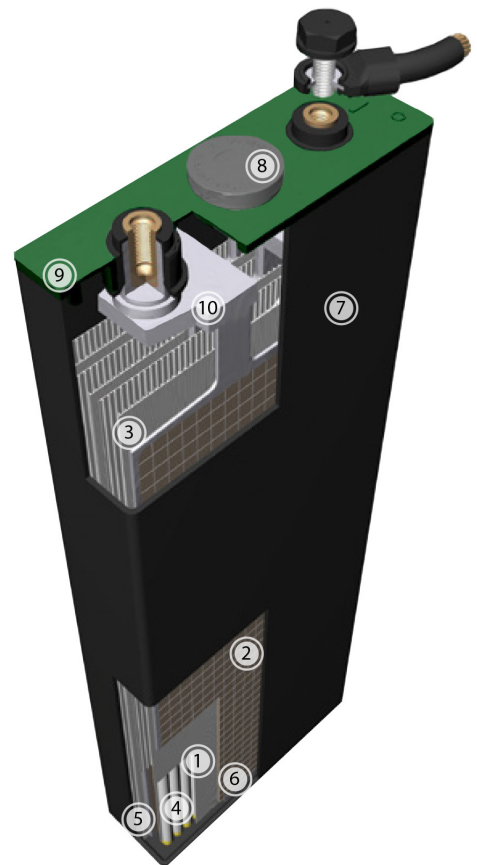
- Advanced design of pole post and its sealing to the lid
- Rubber ring with optimized durability and acid resistance

- ✓ Operational safety
- ✓ Perfect sealing
- ✓ Low maintenance requirements
- ✓ Better current conductivity
- ✓ Positive plate's expansion is safely absorbed
- ✓ Prevention of top lid cracks and acid leakages

10 Pole Bridge

- Terminal bridge manufactured with COS process

- ✓ Consistent and uniform pole bridge composition
- ✓ Increased robustness and durability
- ✓ Perfect connection for poles-bridge-plate block as a whole





Challenging situations require inspired actions and solutions. Battery Ingenuity is what we do. Our inventiveness and ingenuity are stimulated by the demands our customers face competing in an ever more productive, more competitive, lower-carbon, greener economy.

We work with equipment manufacturers and end users of Motive Equipment, Stationary Power and Renewable Energy Systems to eliminate user related issues, reduce maintenance costs, and provide measurable productivity and performance gains. Extensive field experience drives us to innovate, optimize and manufacture lead acid and lithium battery technologies for worldwide distribution through our knowledge based sales and service network.

This is how we meet the world demand for quality power within lower economic and environmental footprints.

Discover® EV Traction Dry Cell Batteries provide superior high integrity and reliability. The maintenance-free, traction plate construction, designed to deliver excellent run time and very good cycle life in hard, high rate discharging applications with repeated deep discharging, makes the EV Series the definitive choice for robust Traction applications.

Discover® EV Traction GEL Batteries provide superior integrity and reliability. The maintenance-free, thick plate construction, designed to deliver excellent cycle life and very good run times at high operating voltages in tough industrial use with regular discharges, makes the EV Gel Series an excellent choice for robust industrial applications.

Discover® Advanced Lithium Battery Systems provide excellent productivity gains through enhanced cycling, charge time, weight and volume improvements in stationary and mobile applications versus lead acid technology. Dramatic improvement in cycle and float life and greater than 95% charge efficiency, combined with nearly zero maintenance requirements provides end users with significant cost of ownership savings. Discover's battery management systems are

combined with safe and robust lithium iron phosphate technology to deliver safety and reliability. Data logging, cell balancing, charge and discharge controls, communication and information management features are integrated within most models.

Discover® RE Tubular OPzS & OPzV (Flooded and Gel) batteries provide maximum efficiency per discharge-charge cycle, and proven reliability in remote, high temperature, or unstable power network installations. The proven cycle and float life of Discover Advanced Tubular Plate technology, combined with low maintenance needs, provides end users with the lowest overall cost of ownership versus other high quality lead acid batteries designed for stationary and renewable energy applications.



Innovative Technology
Proven Expertise
Best in Class Solutions



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