Tubular Flooded (SOPzS) Batteries

Stationary & Renewable Energy Applications







Overview

Advanced Low Maintenance Tubular Plate Batteries for Renewable Energy Storage

Discover[®] RE Tubular Flooded (SOPzS) 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 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, unique sliding pole design (in most models) and special alloy compositions offer superior cycle and service life in renewable 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.

Low Maintenance

Low maintenance design with reduced topping up needs. Transparent containers for easy visual electrolyte level monitoring.

Safety

Compliant with global standards and independent third party certification agencies.

Complete Solution

Complete and ready to install systems, filled and charged or dry charged with all necessary accessories.

Optimum Total Cost of Ownership

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

Product Range

	NOMINAL CAPACITY							MECHANICAL CHARACTERISTICS							
Туре No.	240 HR	120 HR	100 HR	20 HR	10 HR	Kilo-Watt Hours	Poles	Length		Width		Height*		Weight	
	1.85VPC at 20°C / 68°F			1.75VPC at 27°C / 80°F		(120 HRS)		IN	мм	IN	мм	IN	мм	LB	KG
2 VOLT CELLS															
2VRE2-400TF	227	218	213	168	148	0.44	2	7.8	198	2.6	65	17.1	435	26	12
2VRE3-600TF	328	315	307	252	221	0.63	2	7.8	198	3.3	83	17.1	435	34	16
2VRE3-800TF	421	405	387	307	276	0.81	2	7.8	198	3.3	83	19.9	505	41	19
2VRE4-1000TF	530	510	497	410	368	1.02	2	7.8	198	4.0	101	19.9	505	52	24
2VRE5-1300TF	676	650	632	512	460	1.30	2	7.8	198	4.7	119	19.9	505	61	28
2VRE4-1500TF	780	750	722	589	529	1.50	2	7.8	198	4.0	101	25.2	640	68	31
2VRE5-1800TF	936	900	880	736	661	1.80	2	7.8	198	4.7	119	25.2	640	82	37
2VRE6-2200TF	1144	1100	1076	883	794	2.20	2	7.8	198	5.4	137	25.2	640	96	44
2VRE7-2600TF	1352	1300	1288	1030	926	2.60	2	7.8	198	6.9	174	25.2	640	111	50
2VRE8-3000TF	1560	1500	1481	1178	1058	3.00	2	7.8	198	7.6	192	25.2	640	125	57
12 VOLT BLOCKS (PP)															
12VRE-200TF-L	20	19	18	17	15	0.23	2	7.7	195	5.0	126	7.7	196	16	7
12VRE-500TF-L	40	38	37	35	30	0.46	2	10.9	276	6.8	173	9.9	251	37	17
12VRE-900TF-L	79	76	74	70	60	0.91	2	16.3	413	7.0	177	10.0	253	58	26
12VRE-1400TF-L	125	120	117	105	90	1.44	2	14.4	365	6.7	171	10.7	273	68	31
12VRE-1600TF-L	138	132	128	115	100	2.21	2	20.5	520	10.9	277	10.0	254	92	42
12VRE-2100TF-L	178	171	166	145	130	2.05	2	19.7	500	7.4	187	16.2	412	122	55
12VRE-3000TF-L	260	250	243	215	190	3.00	2	19.7	500	7.4	187	16.2	412	142	65
24 VOLT	BLOCK	(S													
24VRE3-10000TF	421	405	387	307	276	9.72	24	32.6	827	12.8	324	21.1	537	489	222
24VRE4-12000TF	530	510	497	410	368	12.24	24	32.6	827	12.8	324	21.1	537	622	282
24VRE6-25000TF	1144	1100	1076	883	794	26.40	24	32.8	832	17.0	432	27.2	690	1153	523
24VRE8-35000TF	1560	1500	1481	1178	1058	36.00	24	32.8	832	23.5	597	27.2	690	1495	678

*Includes installed connectors and shrouds.

Drawings



Certified Quality

- Certified to ISO 9001, ISO 14001, BS OHSAS 18001.
- Compliant with IEC 60896-11 for vented lead acid batteries.
- Compliant to the safety requirement standards of EN 50272-2 for stationary batteries.

The ideal energy solution for Stationary & RES applications

Technical Benefits & Features

Positive Plates

- Tubular plate design
- Special low antimony lead alloy
- Red lead in-house production
- by 99.9% pure lead
- Dry filling process

Long cycle life

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

Negative Plates

- Paste mixture ensures high adherence and cohesion
- Pasted negative plates of grid design
- Optimized low antimony lead alloy
- Robust construction
- Long life expander

Stability

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- Increased cyclic performance
- Long battery life

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

Gauntlet

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

Effective active material retention

Eliminates active mass shedding

Bottom Bar

Ultrasonic welding

Secure fit to the gauntlet

Long battery life

Electrolyte

• High purity sulphuric acid

- ✓ Low self discharge rates
- ✓ Excellent performance on deep
- discharges

Container / Lid

- Large volume container • High impact resistant, translucent
- Polypropylene for the container • Lid welding, trimming and tightness
- control
- Reduced on site visits for topping up
- Easy visual electrolyte level monitoring Long term leakage free operation
- 1
- Unsurpassed mechanical strength
- Robust and durable battery construction

Vent Plug

 Electrolyte basket level marking, specially designed lid, anti-surge baffle

Allows optimum cell gassing

- Electrolyte basket level marking allows visual control of electrolyte level
- ✓ Anti-surge baffle prevents spillage of electrolyte through ventilation openings during operation of the battery

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 _____
- Prevention of top lid cracks and acid leakages

Pole Bridge

- 10 • Terminal bridge manufactured with Cast On Strap 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 maintenancefree, 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 Energy 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® Tubular OPzS & OPzV (Flooded and Gel) batteries provide maximum efficiency per dischargecharge 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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