Tubular Gel VRLA Cells **OPzV** SERIES

Stationary Cells in ABS Containers

MICROTEX
Since 1969

Capacities from 100Ah to 3000Ah

info@microtex.in

www.microtexindia.com

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Since 1969

Microtex is a leading manufacturer of Industrial Batteries in Bangalore, India. The factory has a covered area of 26,700 Sq ft on 5 acres of land, with 300 committed persons. Established 1969, it is a company well known for its high quality. Microtex produces in house, the specially designed lead alloys, lead oxides, grid castings, pasted plates, injection molded containers,multi-tubular gauntlets, PVC separators and produces the complete battery using state of the art industry standard battery making machinery.

Microtex offers Tubular Gel VRLA OPzV series cells capacities ranging from 100Ah to 3000Ah. These VRLA cells are designed to provide superior performance for both high cycling , float/long duration applications and reliability over the life of the battery. These cells are manufactured using state of the art techniques quality components and materials for reduced maintenance and extended battery life.

For Wind, Hydro & Solar photovoltaic, Petrochemical plants, Switchgear and control applications,
Large UPS Systems, Railway signaling, Telecommunications.

OPzV Stands for :-

O = Ortsfest (Stationary)
Pz = PanZerplatte (Tubular plate)
V = Verschlossen (Closed)

Advantages of using Eternia Gel Tubuular batteries.

FEATURES	ADVANTAGES
Thicker spines for Positive Tubular plates	Cast at 150 bars pressure ensures better compression and packing of lead ensuring long cycle life of 20 + years.
Tubular Positive plate	Deep cycling capabilities
Gelled electrolyte	No acid stratification and failure due to partially state of charge (PSOC)
Valve regulated	No water top up during service life
Filled and factory charged	Ready to use and easier to install.
Rugged construction for robust performance	> 20 + years life

Charging Specification

Solar Photo Voltaic Applications

On / Off Type

Over Voltage Disconnect : 2.370±0.005 V/ Cell at 25 °C
Array Reconnection Voltage : 2.250±0.005 V / Cell at 25° C
Low Voltage Disconnect : 1.850±0.005 V / Cell at 25° C
Load Reconnect Voltage : 2.080±0.005 V / Cell at 25°C

Pulse Width modulation (CV Controller) Type

Regulation Voltage : 2.350±0.005 V / Cell at 25° C
Low Voltage Disconnect : 1.850±0.005 V / Cell at 25° C
Load Reconnection Voltage : 2.080±0.005 V / Cell at 25° C

Telecom and Other Applications

Float Applications

Float Voltage : 2.250±0.005 V /cell at 25°C
Boost Voltage : 2.300±0.005 V /cell at 25°C
Equalizing charge : 2.35±0.005 V/cell at 25°C
Current limit : 0.1 C_{10} Amps (Min.) to 0.2 C_{10} Amps (Max.)
Ripple : Should be less than 3% RMS
Float to boost change over : Battery charging current is >5 % of C_{10} Amps
Boost to Float change over : Battery charging current is<3 % of C_{10} Amps

Cyclic Applications

Float Voltage : 2.250±0.005 V / Cell at 25°C
Boost Voltage : 2.350±0.005 V /cell at 25°C
Equalizing charge : 2.37±0.005 V/cell at 25°C
Current limit : 0.1 C_{10} Amps (Min.) to 0.2 C_{10} Amps (Max.)
Ripple : Should be less than 3% RMS
Float to boost change over : Battery charging current is >5 % of C_{10} Amps
Boost to Float change over : Battery charging current is<3 % of C_{10} Amps

Batteries comply with Standard IEC 60896-21, 22 DIN 40 742 Part I, DIN EN 50 272-2
The company is ISO 9001:2015 and ISO 14001:2015 certified

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Design

Positive electrode Tubular plate with a polyester gauntlet and High pressure-die cast spine grids in a corrosion-resistant PbCaSn alloy Negative electrodePasted grid-plate in a PbCaSn alloy with long-life expander

Mterial

Separation	Micro porous separator
Electrolyte	Sulphuric acid with a density of 1,26 kg/l, fixed as GEL by fumed silica
Container	ABS
Lid	ABS
Valve	Valve with flame arrestor Opening pressure approx. 100 mbar, Closing pressure approx. 50 mbar
Pole – bushing	100% gas- and electrolyte-tight, sliding, plastic coated kind of pole with M10 brass insertion
Connectors	Solid flat copper connectors
Connector screw	M10, steel with a spring and flat washer
Protection	Connectors and fasteners are covered with Plastics shroud
Horizontal operation	Possible

Charging

IU - characteristic	Imax without limitation U = 2,25V/cell +/- 1%, between 10°C and 45°C U/T = -0,003 V/K
Float current	20 – 30 mA/100Ah
Boost charge	U = 2,35 to 2,40V/cell, time limited
Charging time up to 90%	6h with $1,5 * I_{10}$ initial current,2.23 V/cell,80% C3 discharged

Discharge characteristics

Reference temperature	25°C
Initial capacity	100%
Depth of discharge (DOD)	normally up to 80%
Deep discharges	More than 80% DOD or discharges beyond final discharge voltages(based on discharge rate)have to be avoided

Maintenance

Every 6 months	Check battery voltage, pilot cell voltage and temperature
Every 12 months	Record battery voltage, cell voltages and temperatures

Operational data

Operational life	> 20 years in standby float operation, 27C
Maintenance-free	No topping-up water during operational life
IEC 60 896-2 cycles	>1800
Self-discharge	Approx. 2% per month at 25°C
Recovery after deep discharge	Very good
Operational temperature	-20°C to 45°C, recommended 10°C to 35°C, short-time 45°C to 55°C

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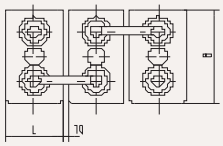
Types, capacities, dimensions, mass

Type	C10 25°C	C8 25°C	C5 25°C	C3 25°C	C1 25°C	Ri (1)	Ik (2)	Length	Width	Height (max.)	Mass	lead Mass
	Ah	Ah	Ah	Ah	Ah	mΩ	kA	mm	mm	mm	kg	kg
End Cell Voltage / cell	1.80	1.77	1.77	1.75	1.67							
4 OPzV 200	238	232	211	188	140	1.20	1.70	105	208	420	19,5	13
5 OPzV 250	298	291	263	235	174	0.96	2.15	126	208	420	23,5	15
6 OPzV 300	356	349	319	281	209	0.80	2.57	147	208	420	28	19
5 OPzV 350	427	416	371	324	234	0.71	2.88	126	208	535	31	21
6 OPzV 420	512	499	448	389	281	0.60	3.46	147	208	535	36,5	24
7 OPzV 490	597	583	520	454	329	0.51	4.04	168	208	535	42	27
6 OPzV 600	729	710	633	562	402	0.45	4.58	147	208	710	50	34
8 OPzV 800	972	948	845	751	537	0.34	6.10	215	193	710	68	45
10 OPzV 1000	1215	1187	1056	936	670	0.27	7.63	215	235	710	82	55
12 OPzV 1200	1463	1417	1267	1125	804	0.23	9.15	215	277	710	97	65
12 OPzV 1500	1669	1648	1437	1239	893	0.24	8.58	215	277	855	120	80
16 OPzV 2000	2225	2200	1916	1650	1191	0.18	11.4	215	400	815	160	107
20 OPzV 2500	2781	2752	2395	2064	1488	0.14	14.3	215	490	815	200	133
24 OPzV 3000	3337	3304	2874	2475	1786	0.12	17.1	215	580	815	240	160

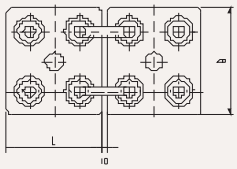
1), 2) internal resistance and short - circuit - current from IEC 60 896-21

Note: 1) The electrical characteristics are nominal indicative value and can vary within + / - 5.0%.

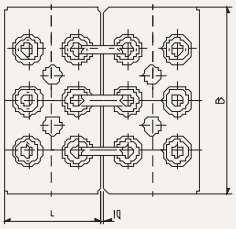
2) Dimension can vary within +/ - 2.0m 3) Weight figures can vary within + / - 5.0%



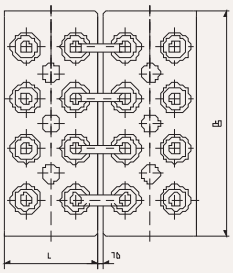
4 OPzV 200 to 6 OPzV 600



8 OPzV 800 to 12 OPzV 1500



16 OPzV 2000



20 OPzV 2500 to 24 OPzV 3000

Performance details:

Self-discharge	:	Less than 1% per week
Shelf life without re-charge	:	May be stored up to 6 Months*
Operating conditions	:	-40°c to + 55°c
Design Float Life	:	Up to 15 + Year
Design Cycle Life	:	5200 Cycles at 20% Depth of Discharge 3000 Cycles at 50% Depth of Discharge 1800 Cycles at 80% Depth of Discharge

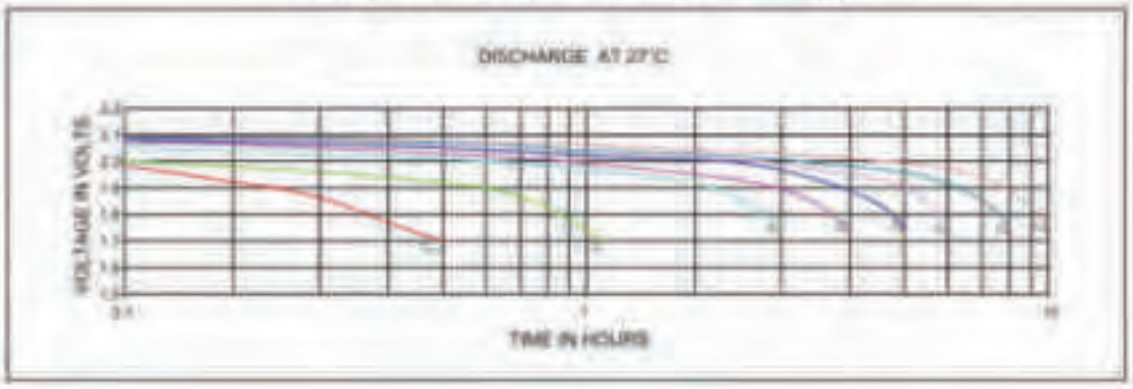
Note: All values are rated at 27°c. Charging parameters at 27°c

*Please refer to Instruction manual for storage requirements.

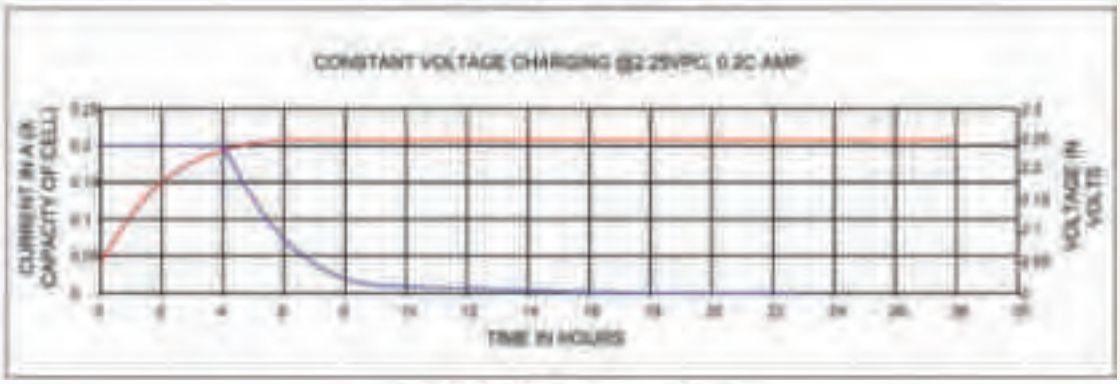
The ETERNIA T Gel sealed battery is the environmentally friendly battery that saves you money in your operation.

- Up to 65% to 75% lower float current
- Consumes about 70% less electricity
- Lower float current generates less heat
- Less heat generated reduces required air conditioning
- Less electricity consumed in float charging and air conditioning = reduced carbon emissions

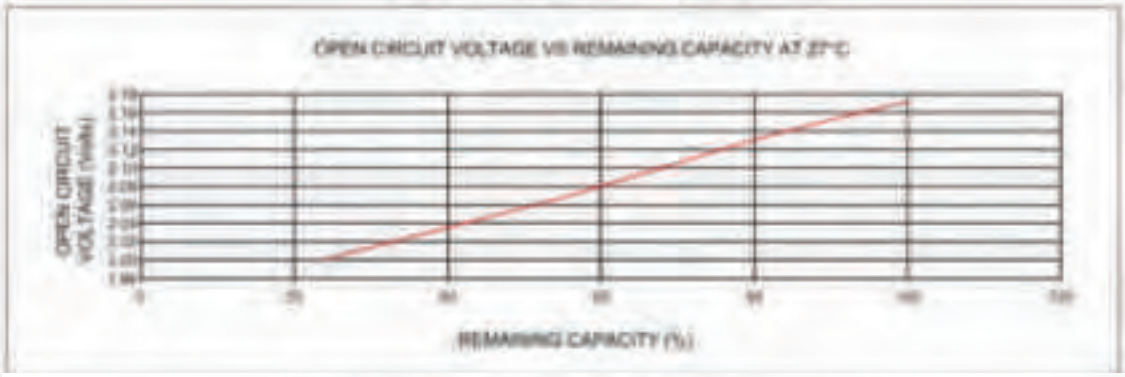
Discharge Curves at Different Rates of Discharge



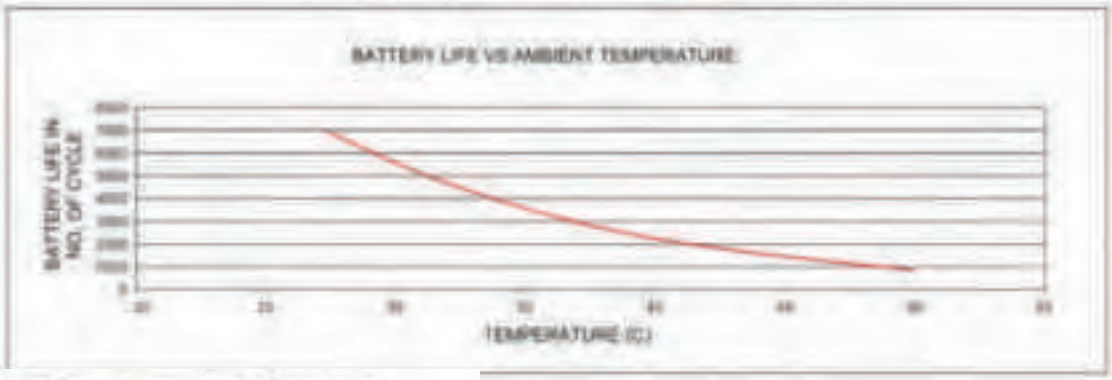
Constant Voltage Charging Curve

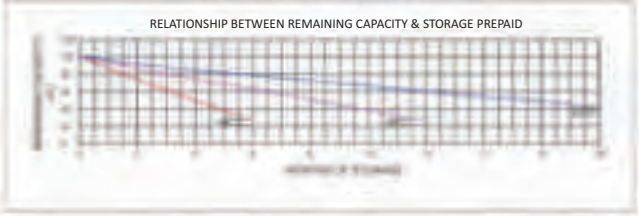


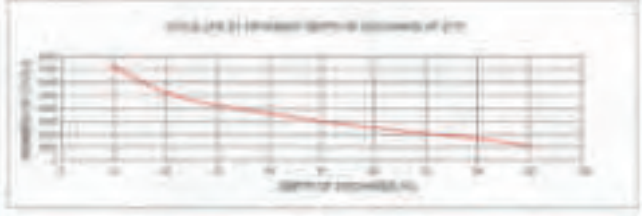
Self-Discharge Characteristics



Service Life - Ambient Temperature







MICROTEX

Since 1969

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Read instruction Manual


Completely recyclable

Hand over to authorised MOEF recyclers


Protect eyes from electrolyte


Electrical Hazard