

# Deep Cycle VRLA AGM Battery

# VTD12-40

The Valiant VTD series deep cycle AGM battery features special additives to the positive plate and advanced AGM separators which increase cycle life up to 70% higher compared with standard AGM batteries. This technology also provides up to 15 years of float life. The VTD series is highly suited for systems that rely heavily on battery storage power such as off-grid solar systems, RV and marine and electric vehicles.

12V  
Voltage

40Ah  
Capacity

AGM  
Technology

Deep  
Cycle



**COMPLIED STANDARDS**

IEC 60896-21/22	JIS C8704
YD/T799	ISO9001
GB/T 19638	CE

### GENERAL FEATURES

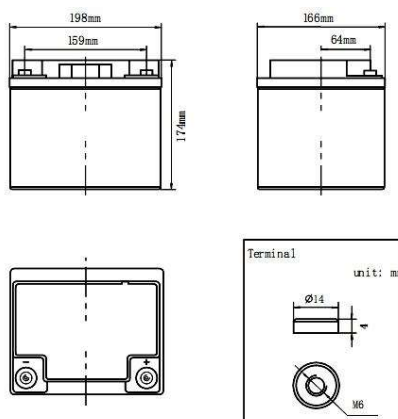
- Thicker plate with high Tin low Calcium alloy
- Deep discharge recovery, 1200cycle @ 50% DOD
- 1years full warranty in most applications
- Longer Service Life, in both Float or Cycling applications
- High Power Density

### APPLICATIONS

- Off-grid solar systems
- RV and marine
- UPS/Telecom
- Electric vehicle
- Golf cart

### DIMENSIONS & WEIGHT

Length(mm)	198 ± 1
Width(mm)	166 ± 1
Height(mm)	174 ± 1
Total Height(mm)	174 ± 1
Weight (kg)	13.7±3%



### TECHNICAL SPECIFICATIONS

Nominal Voltage		12V(6 cells per unit)
Design Floating Life @25°C		12 Years
Nominal Capacity @25°C (20 hour rate@2.0A,10.8V)		40Ah
Capacity @25°C	10hour rate (3.6A,10.8V)	36Ah
	5 hour rate (6.4A,10.5V)	32Ah
	1 hour rate (24.1A,9.6V)	24.1Ah
Internal Resistance	Full Charged Battery@25°C	≤10 mΩ
Ambient Temperature	Discharge	-15°C~45°C
	Charge	-15°C~45°C
	Storage	-15°C~45°C
Max.Discharge Current@25°C		240A(5s)
Capacity affected by Temperature (10 hour )	40°C	105%
	25°C	100%
	0°C	85%
	-15°C	65%
Self-Discharge@25°C per Month		3%
Charge (Constant Voltage) @25°C	Standby Use	Initial Charging Current Less than 12.0A Voltage 13.6-13.8V
	Cycle Use	Initial Charging Current Less than 12.0A Voltage 14.4-14.9V

### BATTERY DISCHARGE TABEL

**Discharge Constant Current per Cell (Amperes at 25°C)**

F.V/Time	15min	30min	45min	1h	2h	3h	5h	8h	10h	20h	100h
1.60V	64.7	39.4	26.4	24.4	14.1	9.9	6.7	4.4	4.0	2.16	0.48
1.65V	63.5	38.7	25.9	24.0	13.8	9.7	6.6	4.4	3.9	2.12	0.47
1.70V	62.3	37.9	25.4	23.5	13.6	9.5	6.5	4.3	3.8	2.08	0.46
1.75V	61.2	37.2	25.0	23.1	13.3	9.4	6.4	4.2	3.7	2.04	0.45
1.80V	58.8	35.8	24.0	22.2	12.8	9.0	6.1	4.0	3.6	2.00	0.44

**Discharge Constant Power per Cell (Watts at 25°C)**

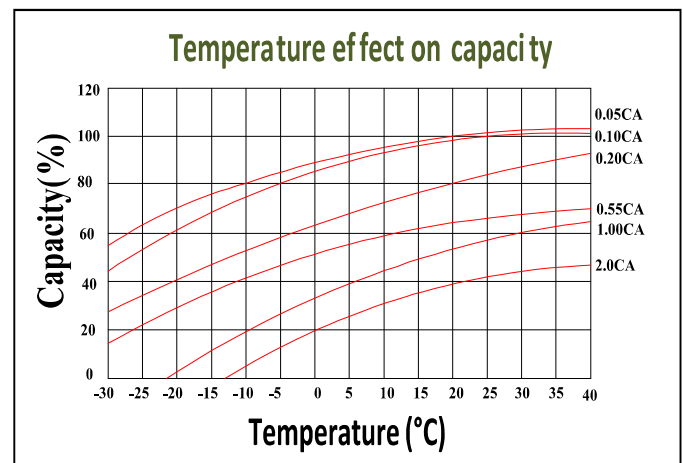
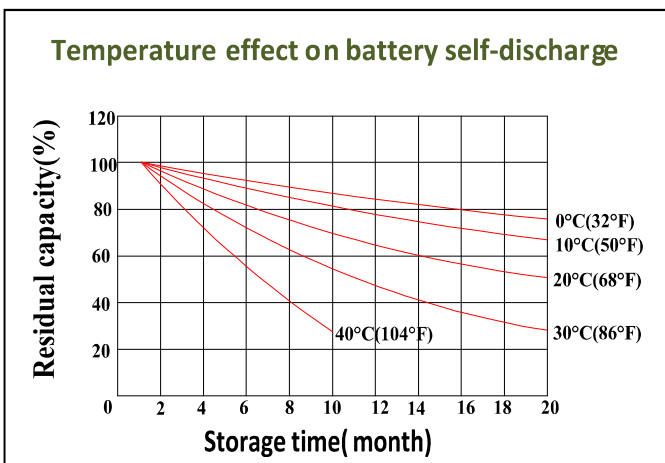
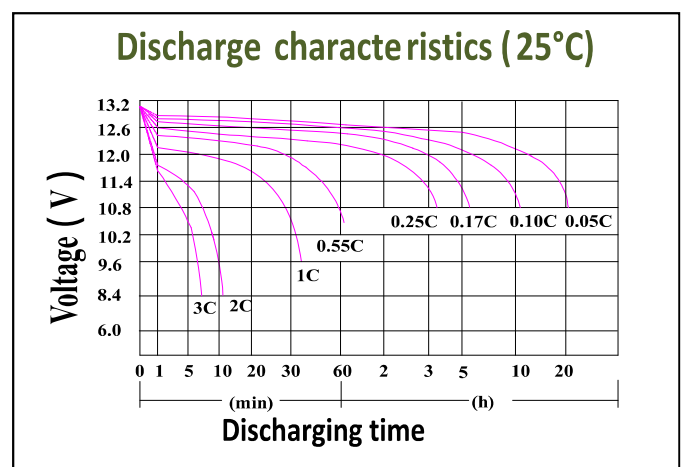
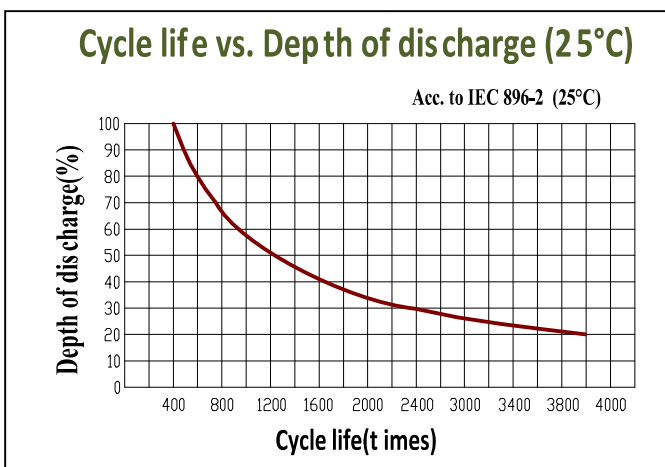
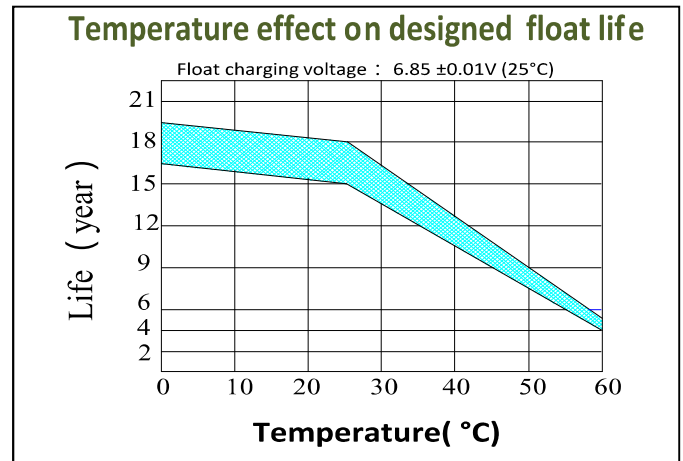
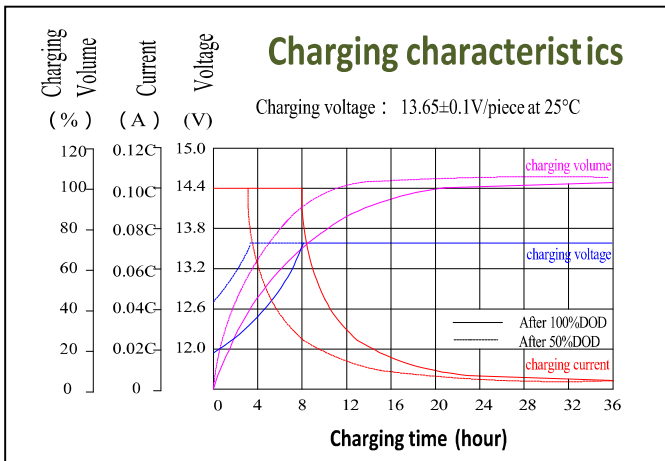
F.V/Time	15min	30min	45min	1h	2h	3h	5h	8h	10h	20h	100h
1.60V	124.5	75.8	50.8	47.0	27.1	19.1	13.0	8.6	7.6	4.2	0.92
1.65V	122.2	74.4	49.9	46.2	26.7	18.7	12.7	8.4	7.5	4.1	0.91
1.70V	120.0	73.0	49.0	45.3	26.2	18.4	12.5	8.2	7.3	4.0	0.89
1.75V	117.7	71.7	48.0	44.4	25.7	18.0	12.3	8.1	7.2	3.9	0.87
1.80V	113.2	68.9	46.2	42.7	24.7	17.3	11.8	7.8	6.9	3.9	0.85

Note: The above data is based on average values and can typically be achieved within 3 charge/discharge cycles. Battery designs and specifications are subject to change without notice. Contact Valiant for the latest information.

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## PERFORMANCE CHARACTERISTICS



## BATTERY CONSTRUCTION

Component	Positive plate	Negative plate	Container & Cover	Safety valve	Terminal	Separator	Electrolyte	Pillar seal
Features	Thick high Sn low Ca grid with special paste	Balanced Pb-Ca grid for improved recombination efficiency	Fire resistance ABS UL94-V0	Flame Si-Rubber and aging resister	Female Copper Insert M8(torque :10~11N.m	Advanced AGM separator for high pressure cell design	Dilute high purity sulphuric acid	Two layers epoxy resin seal