



# VTD12-135 (12V 135AH/20HR) Deep Cycle AGM Battery

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  
135Ah**

**AGM  
Technology**

**Deep  
Cycle**



**COMPLIED STANDARDS**  
IEC 60896-21/22      JIS C8704  
YD/T799                      BS6290 part4  
GB/T 19638                      CE

### Applications

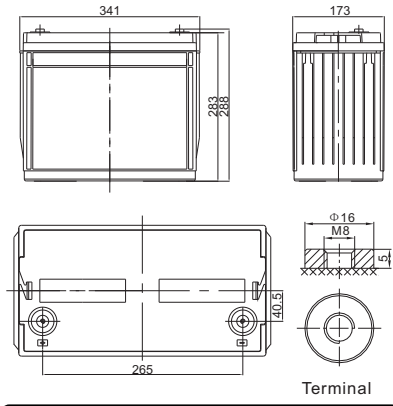
- Off-grid solar systems
- RV and marine
- UPS/Telecom
- Electric vehicle
- Golf cart

### General Features

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

### Dimensions & Weight

Length(mm/inch)	341/13.43
Width(mm/inch)	173/6.81
Height(mm/inch)	283/11.14
Total Height(mm/inch)	288/11.34
Weight(kg/lbs)(±3%)	39.2/86.4



### Technical Specifications

Nominal Voltage		12V (6 cells per unit)
Design Floating Life @ 25°C		15 Years
Nominal Capacity @ 25°C	20 hour rate@6.75A,10.8V	135Ah
Capacity @ 25°C	10 hour rate (12.2A, 10.8V)	122Ah
	5 hour rate (21.5A, 10.5V)	107.5Ah
	1 hour rate (78.0A, 9.6V)	78.0Ah
Internal Resistance	Full Charged Battery@ 25°C	≤4.5mΩ
Ambient Temperature	Discharge	-15°C~45°C
	Charge	-15°C~45°C
	Storage	-15°C~45°C
Max.Discharge Current		@ 25°C 700A(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 27.0A Voltage 13.6-13.8V
	Cycle Use	Initial Charging Current Less than 27.0A Voltage 14.4-14.9V

### Battery Discharge Table

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

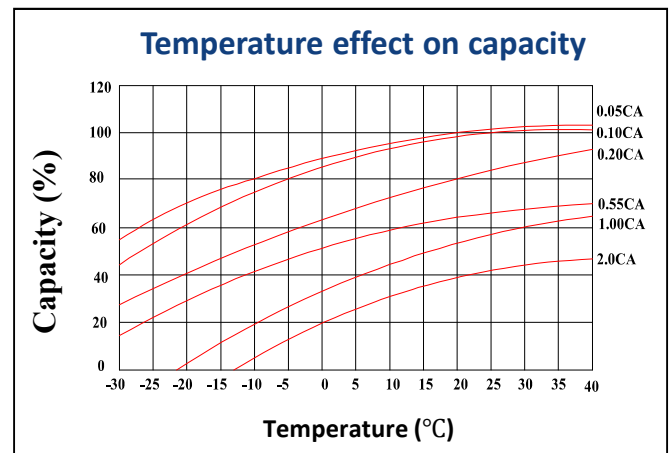
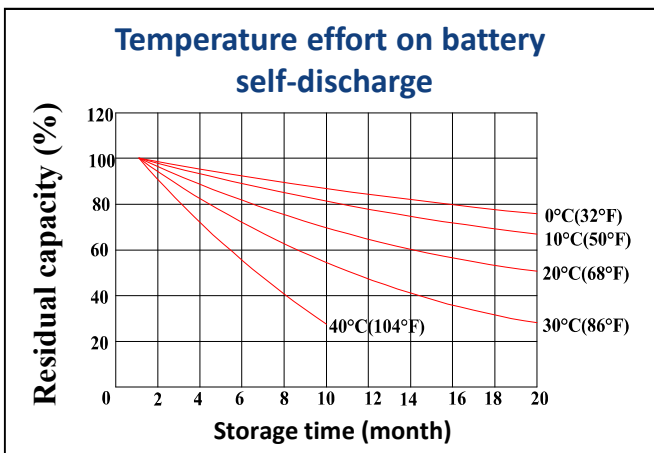
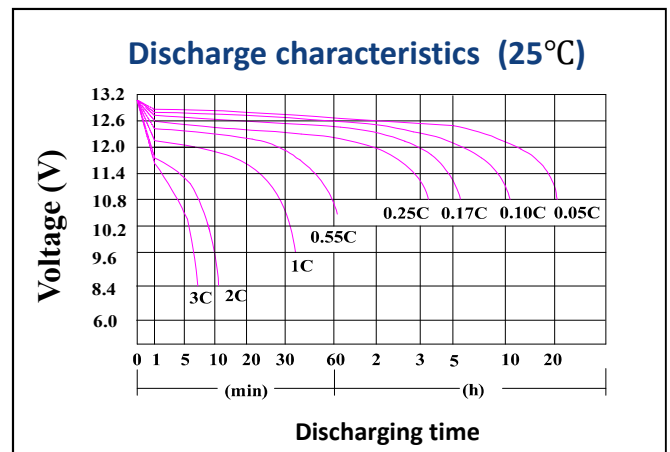
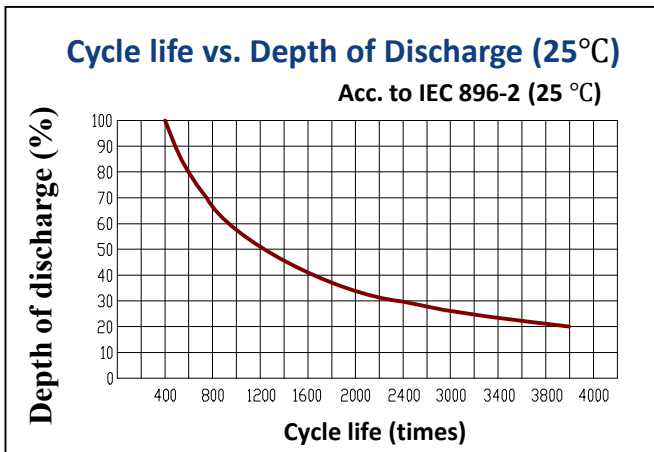
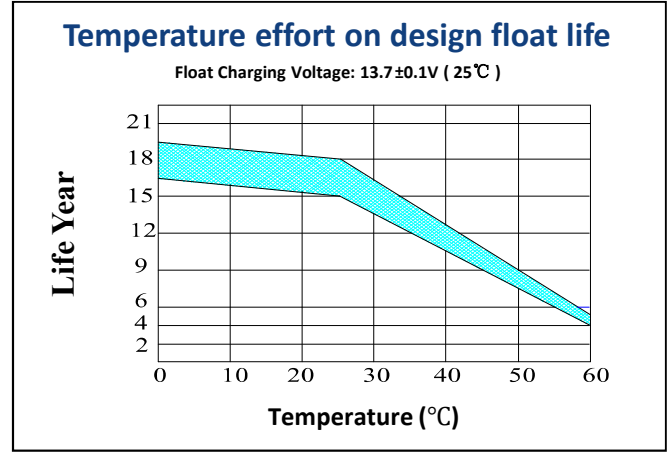
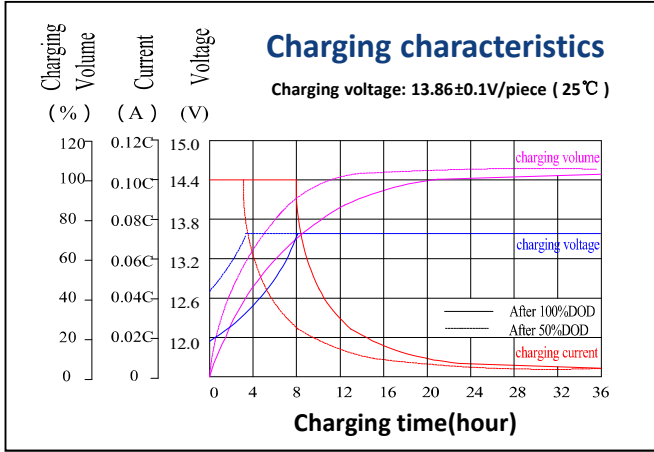
F.V/Time	15min	30min	45min	1h	2h	3h	5h	8h	10h	20h	100h
1.60V	210.9	125.5	89.1	78.0	47.6	33.4	22.7	15.0	13.4	7.29	1.62
1.65V	207.0	123.2	87.5	76.5	46.7	32.8	22.3	14.7	13.1	7.16	1.59
1.70V	203.2	120.9	85.9	75.1	45.9	32.2	21.9	14.5	12.9	7.02	1.56
1.75V	199.4	118.6	84.2	73.7	45.0	31.6	21.5	14.2	12.6	6.89	1.53
1.80V	191.7	114.1	81.0	70.9	43.3	30.4	20.7	13.6	12.2	6.75	1.50

#### 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	405.9	241.6	171.5	150.1	91.6	64.3	43.7	28.9	25.7	14.0	3.12
1.65V	398.5	237.2	168.4	147.3	90.0	63.1	42.9	28.3	25.3	13.8	3.06
1.70V	391.2	232.8	165.3	144.6	88.3	62.0	42.1	27.8	24.8	13.5	3.00
1.75V	383.8	228.4	162.2	141.9	86.6	60.8	41.4	27.3	24.3	13.3	2.94
1.80V	369.0	219.6	155.9	136.4	83.3	58.5	39.8	26.2	23.4	13.0	2.88



## 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	ABS (UL94-VO optional)	Flame Si-Rubber and aging resistant	M8	Advanced AGM separator for high pressure cell design	Dilute high purity sulfuric acid	Two layers epoxy resin seal