VTD6-420 (6V 420AH/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.

6V 420Ah | **AGM Technology** | **Deep Cycle**

Applications

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

General Features

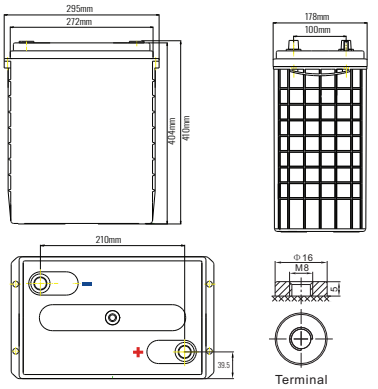
- Thicker plate with high Tin low Calcium alloy
- Deep discharge recovery, 1200cycle @50% DOD
- 2 years full warranty in most applications
- Longer Service Life, in both Float or Cycling applications
- High Power Density

COMPLIED STANDARDS

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

Dimensions & Weight

Length(mm/inch)	295/11.61
Width(mm/inch)	178/7.01
Height(mm/inch)	404/15.91
Total Height(mm/inch)	410/16.15
Weigt(kg/lbs)(±3%)	56.8/125.2



Technical Specifications

Nominal Voltage		6V (3 cells per unit)
Design Floating Life @ 25℃		15 Years
Nominal Capacity @ 25℃	20 hour rate@21.0A, 5.4V	420Ah
Capacity @ 25℃	10 hour rate (37.8A, 5.4V)	378Ah
	5 hour rate (66.8A, 5.25V)	334Ah
	1 hour rate (233.3A, 4.8V)	233.3Ah
Internal Resistance	Full Charged Battery@ 25℃	≤1.9mΩ
Ambient Temperature	Discharge	-15℃~45℃
	Charge	-15℃~45℃
	Storage	-15℃~45℃
Max.Discharge Current		@ 25℃ 1350A(5s)
Capacity affected by Temperature (10 hour)	40℃	105%
	25℃	100%
	0℃	85%
	-15℃	65%
Self-Discharge@25℃per Month		3%
Charge (Constant Voltage) @ 25°C	Standby Use	Initial Charging Current Less than 84A Voltage 6.8-6.9V
	Cycle Use	Initial Charging Current Less than 84A Voltage 7.2-7.45V

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	540.5	344.2	254.1	233.3	148.1	104.0	70.7	46.7	41.6	22.6	5.03
1.65V	530.7	337.9	249.5	229.1	145.4	102.1	69.4	45.8	40.8	22.2	4.94
1.70V	520.9	331.7	244.9	224.8	142.7	100.2	68.1	45.0	40.1	21.8	4.85
1.75V	511.1	325.4	240.2	220.6	140.0	98.3	66.8	44.1	39.3	21.4	4.76
1.80V	491.4	312.9	231.0	212.1	134.6	94.5	64.3	42.4	37.8	21.0	4.66

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	1040.5	662.6	489.1	449.1	285.0	200.1	136.1	89.8	80.0	43.7	9.69
1.65V	1021.6	650.5	480.2	441.0	279.9	196.5	133.6	88.2	78.6	42.9	9.51
1.70V	1002.7	638.5	471.4	432.8	274.7	192.8	131.1	86.6	77.1	42.0	9.33
1.75V	983.8	626.4	462.5	424.6	269.5	189.2	128.6	84.9	75.7	41.2	9.15
1.80V	945.9	602.3	444.7	408.3	259.1	181.9	123.7	81.7	72.8	40.4	8.97

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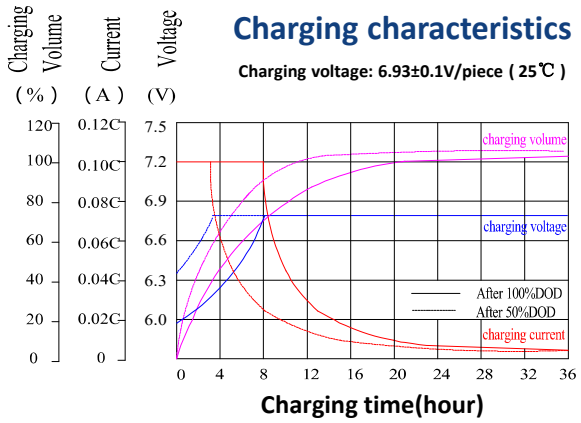
Performance Characteristics

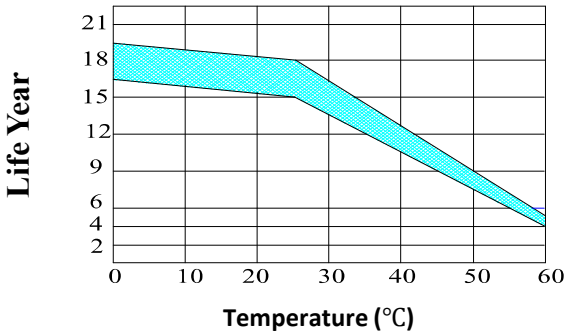
Charging characteristics

Charging voltage: 6.93±0.1V/piece (25℃)



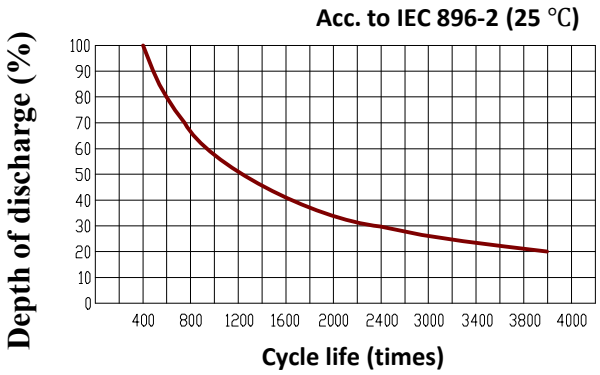
Temperature effort on design float life

Float Charging Voltage: 6.85±0.1V (25℃)

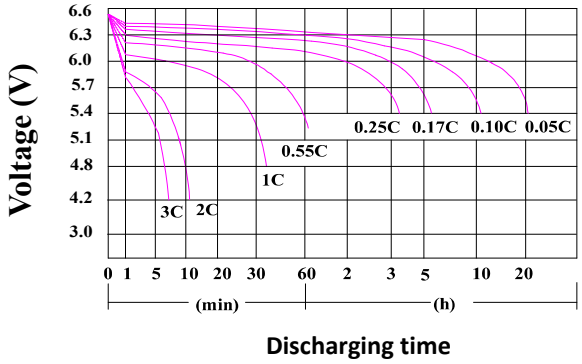


Cycle life vs. Depth of Discharge (25℃)

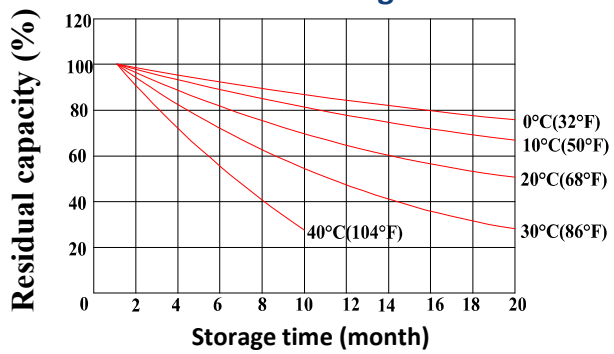
Acc. to IEC 896-2 (25 ℃)



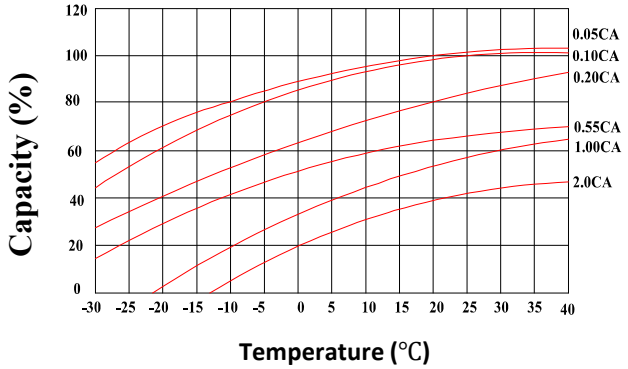
Discharge characteristics (25℃)



Temperature effort on battery self-discharge



Temperature effect on capacity



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 sulfunc acid	Two layers epoxy resin seal