

Deep Cycle VRLA AGM Battery

VTD6-220FR

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
Voltage220Ah
CapacityAGM
TechnologyDeep
Cycle

GENERAL FEATURES

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

APPLICATIONS

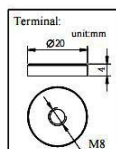
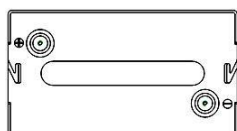
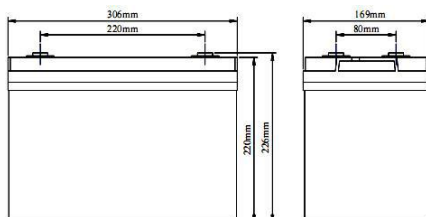
- Off-grid solar systems
- RV and marine
- UPS/Telecom
- Electric vehicle
- Golf cart

COMPLIED STANDARDS

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

DIMENSIONS & WEIGHT

Length(mm)/inches	306 ± 1/12.05
Width(mm)/inches	168 ± 1/6.61
Height(mm)/inches	220 ± 1/8.66
Total Height(mm)/inches	226 ± 1/8.89
Weight(kg)/lbt	31.5 ± 3%/69.45



TECHNICAL SPECIFICATIONS

Nominal Voltage		6V(3 cells per unit)
Design Floating Life @25°C		15 Years
Nominal Capacity @25°C (20 hour rate@11.0A,5.4V)		220Ah
Capacity @25°C	10hour rate (19.8A,5.4V)	198Ah
	5 hour rate (35.0A,5.25V)	175Ah
	1 hour rate (122.2A,4.8V)	122.2Ah
Internal Resistance	Full Charged Battery@25°C	≤2.8 mΩ
Ambient Temperature	Discharge	-15°C~45°C
	Charge	-15°C~45°C
	Storage	-15°C~45°C
Max.Discharge Current@25°C		1080A(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 44A Voltage 6.8-6.9V
	Cycle Use	Initial Charging Current Less than 44A 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	283.1	180.3	133.1	122.2	77.6	54.5	37.0	24.4	21.8	11.88	2.64
1.65V	278.0	177.0	130.7	120.0	76.2	53.5	36.4	24.0	21.4	11.66	2.59
1.70V	272.8	173.7	128.3	117.8	74.7	52.5	35.7	23.6	21.0	11.44	2.54
1.75V	267.7	170.5	125.8	115.5	73.3	51.5	35.0	23.1	20.6	11.22	2.49
1.80V	257.4	163.9	121.0	111.1	70.5	49.5	33.7	22.2	19.8	11.0	2.44

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

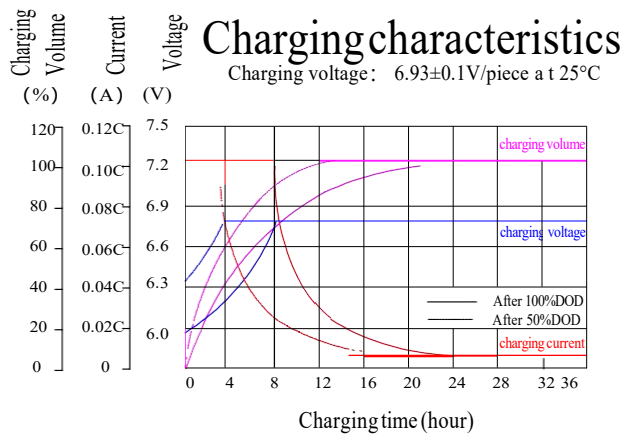
F.V/Time	15min	30min	45min	1h	2h	3h	5h	8h	10h	20h	100h
1.60V	545.0	347.1	256.2	235.3	149.3	104.8	71.3	47.1	41.9	22.9	5.08
1.65V	535.1	340.7	251.6	231.0	146.6	102.9	70.0	46.2	41.2	22.4	4.98
1.70V	525.2	334.4	246.9	226.7	143.9	101.0	68.7	45.3	40.4	22.0	4.89
1.75V	515.3	328.1	242.2	222.4	141.2	99.1	67.4	44.5	39.6	21.6	4.79
1.80V	495.5	315.5	232.9	213.9	135.7	95.3	64.8	42.8	38.1	21.2	4.70

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.

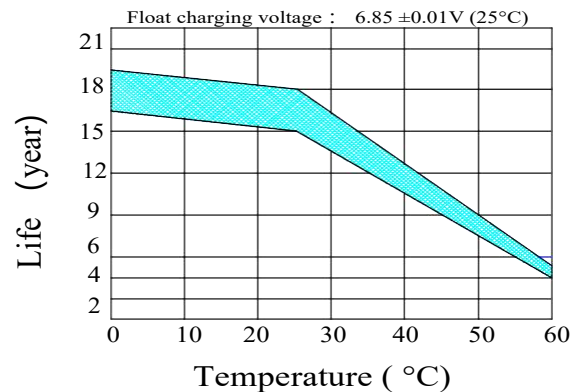
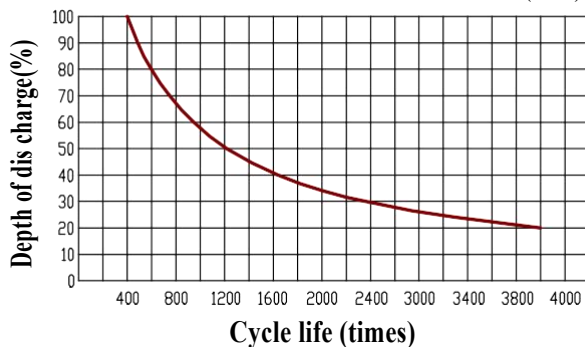
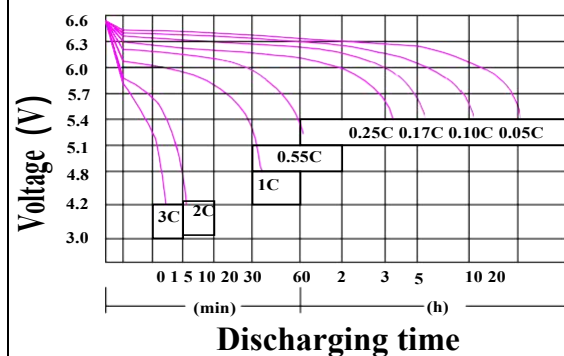
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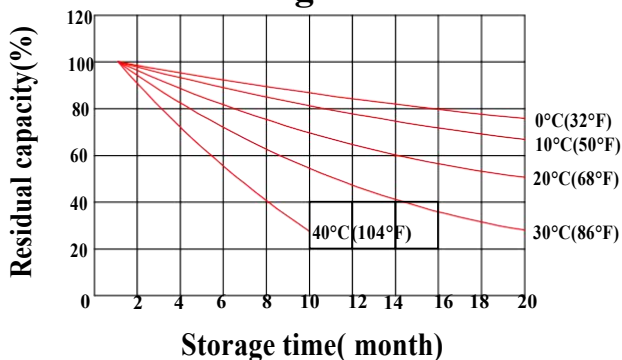
PERFORMANCE CHARACTERISTICS



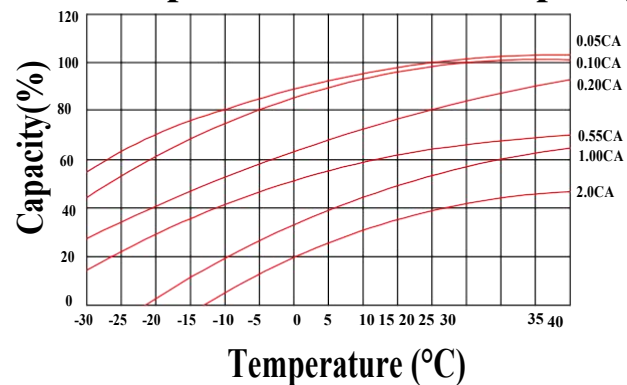
Temperature effect on designed float life

Cycle life vs. Depth of discharge (25°C)Acc. to IEC 896-2 (25°C)Discharge characteristics (25°C)

Temperature effect on battery self-discharge



Temperature effect on capacity



BATTERY CONSTRUCTION

Component	Positive plate	Negative plate	Container & Cover	Safety valve
Features	Thick high Sn low Ca grid with Special paste	Balanced Pb-Ca grid for improved recombination efficiency	Fire resistant e ABS (UL94-V0 optional)	Flame Si-Rubber and aging resistance
Component	Terminal	Separator	Electrolyte	Pillar seal
Features	Female Copper Insert	Advanced PVC /AGM separator for high pressure cell desbm	Dilute high purity sulfuric acid	Two layers epoxy resin seal