

STARMAX

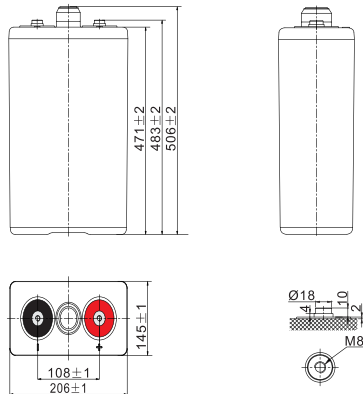
OPzV TUBULAR GEL BATTERIES

OPzV420-2



OPzV420-2 (2V 420Ah)

LAYOUT



General Features

- ✓ 20 years design life(20°C)
- ✓ Better recovery performance
- ✓ Wide working temperature range (-20~55)°C
- ✓ No electrolyte stratification provides longer service life
- ✓ High recombination efficient
- ✓ Build in copper core based in lead will carry large current
- ✓ Separator imported form AMER-SIL high porosity. PVC-SiO₂ and low resistance
- ✓ Pasted negative plate special grid design increase the active material. Availability large current discharge and charge ability
- ✓ Tubuler type positive plate (polyester tube) prevent the active material from falling. Muti metal alloy pressed positive grid increase the anti corrosion ability and service life

Applications

- ✓ Green energy systems (solar, wind, hydro, etc)
- ✓ Telecommunications installations
- ✓ Solar power stations
- ✓ Alarm installations
- ✓ Railway crossing
- ✓ Street lightening
- ✓ Pump systems
- ✓ Signal station
- ✓ Street signs
- ✓ Traffic lights
- ✓ Lawn lamp

Standards

- ✓ ACC. to IEC 60896, IEC 61427, DIN 40742 standards
- ✓ UL, CE Certified
- ✓ Manufactured by Starmax, ISO 45001, ISO 9001 and ISO 14001 certified production facilities



SPECIFICATIONS

Rated Voltage	2V	
Nominal Capacity	420Ah	C ₁₀ , 1.80V/cell
Dimensions	Length	145mm(5.71 in.)
	Width	206mm(8.11 in.)
	Container height	471mm(18.54 in.)
	Total height	506mm(19.92 in.)
Approx. weight	34.5Kg (76.06 lbs)	
Terminal	M8	
Container material	ABS	
Rated capacity (25°C)	546.0 Ah	(100hr,5.46A,1.80V/cell)
	420.0 Ah	(10hr,42.0A,1.80V/cell)
	365.5 Ah	(5hr,73.1A,1.75V/cell)
	324.0 Ah	(3hr,108.0A,1.75V/cell)
	235.0 Ah	(1hr,235.0A,1.65V/cell)
Max. discharge current	3360A	
Internal resistance (25°C)	Approx.0.80mΩ	
Operating temp. range	Discharge	-20°C~55°C (-4°F~131°F)
	Charge	0°C~40°C (32°F~104°F)
	Storage	-20°C~50°C (-4°F~122°F)
Nominal operating temp. range	25±3°C (77±5°F)	
Cycle Use	105.0A	
Effect of temp. to Capacity	Float	2.25V
	Temp. Coefficient	-3mV/cell/°C
	Cycle(Equalization)	2.35~2.40V
Effect of temp. to Capacity	40°C (104°F)	106%
	25°C (77°F)	100%
	0°C (32°F)	86%
Self discharge	≤3% per month at 25°C	

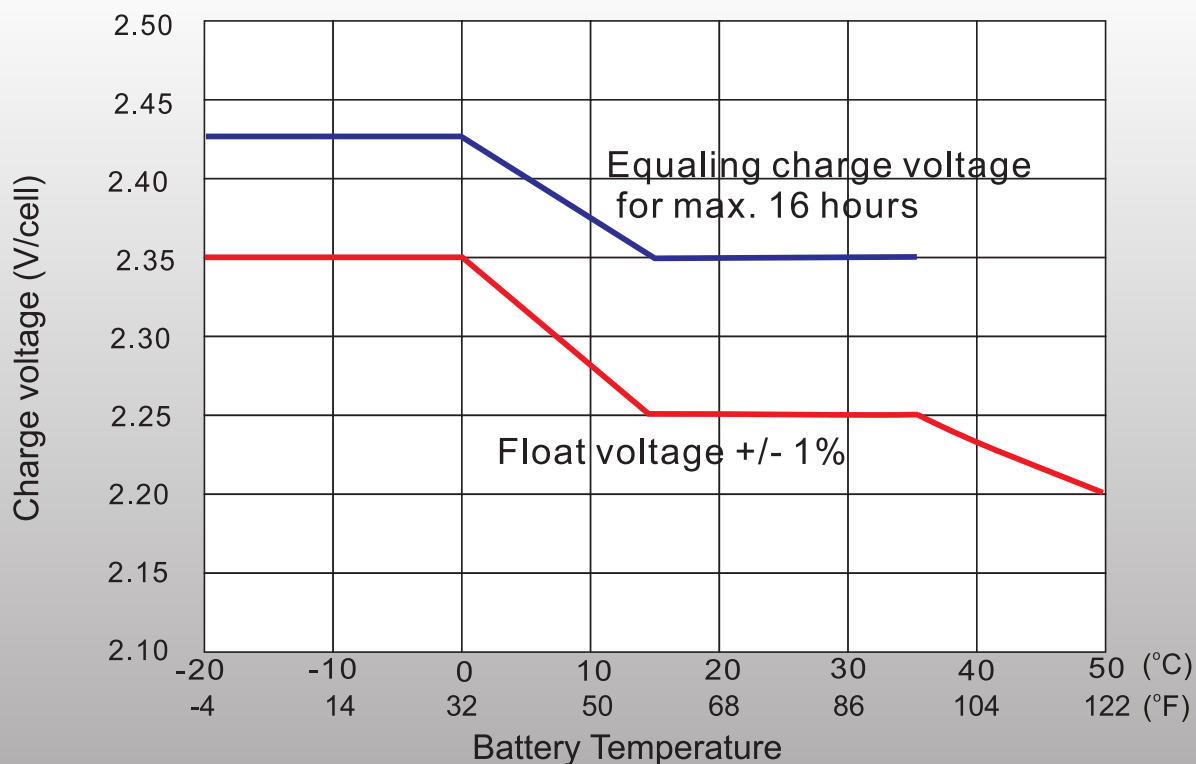
Constant Current Discharge (Amperes) at 25°C (77°F)

F.V/Time	1h	2h	3h	5h	8h	10h	24h	48h	72h	100h	120h
1.85V/cell	187.7	126.9	97.4	66.7	46.7	39.4	18.7	9.77	7.03	5.33	4.59
1.80V/cell	210.4	139.0	106.0	71.8	50.0	42.0	19.3	10.2	7.29	5.46	4.73
1.75V/cell	218.8	143.9	108.4	73.3	50.8	42.7	19.5	10.4	7.48	5.57	4.80
1.70V/cell	228.4	147.5	110.6	74.3	51.5	43.2	19.8	10.6	7.55	5.65	4.86
1.67V/cell	234.3	149.9	112.6	75.5	52.2	43.6	20.0	10.7	7.61	5.75	4.92
1.60V/cell	237.9	152.3	113.9	76.3	52.5	43.9	20.1	10.8	7.67	5.81	4.98

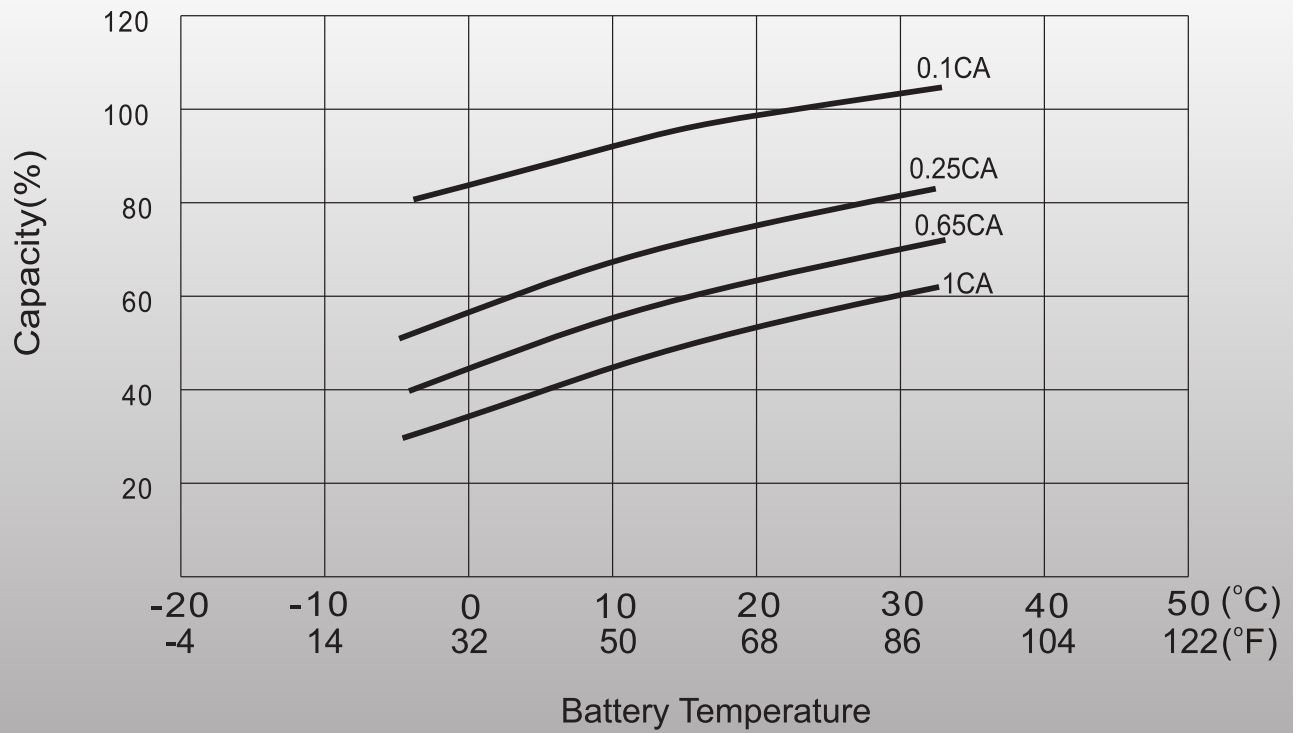
Constant Power Discharge (Watts/Cell) at 25°C (77°F)

F.V/Time	1h	2h	3h	5h	8h	10h	24h	48h	72h	100h	120h
1.85V/cell	362.3	246.6	190.1	130.9	92.6	78.2	37.4	19.6	14.1	10.7	9.25
1.80V/cell	405.3	269.6	205.7	140.5	99.0	83.4	38.6	20.3	14.6	11.0	9.50
1.75V/cell	418.4	275.6	209.3	142.9	100.4	84.6	38.8	20.7	15.0	11.2	9.63
1.70V/cell	432.8	281.7	212.9	145.3	101.5	85.4	39.4	21.1	15.1	11.3	9.75
1.67V/cell	441.2	286.5	216.5	146.5	102.5	86.2	39.7	21.3	15.2	11.5	9.87
1.60V/cell	445.9	288.9	217.7	147.7	103.0	86.6	40.0	21.5	15.3	11.6	9.96

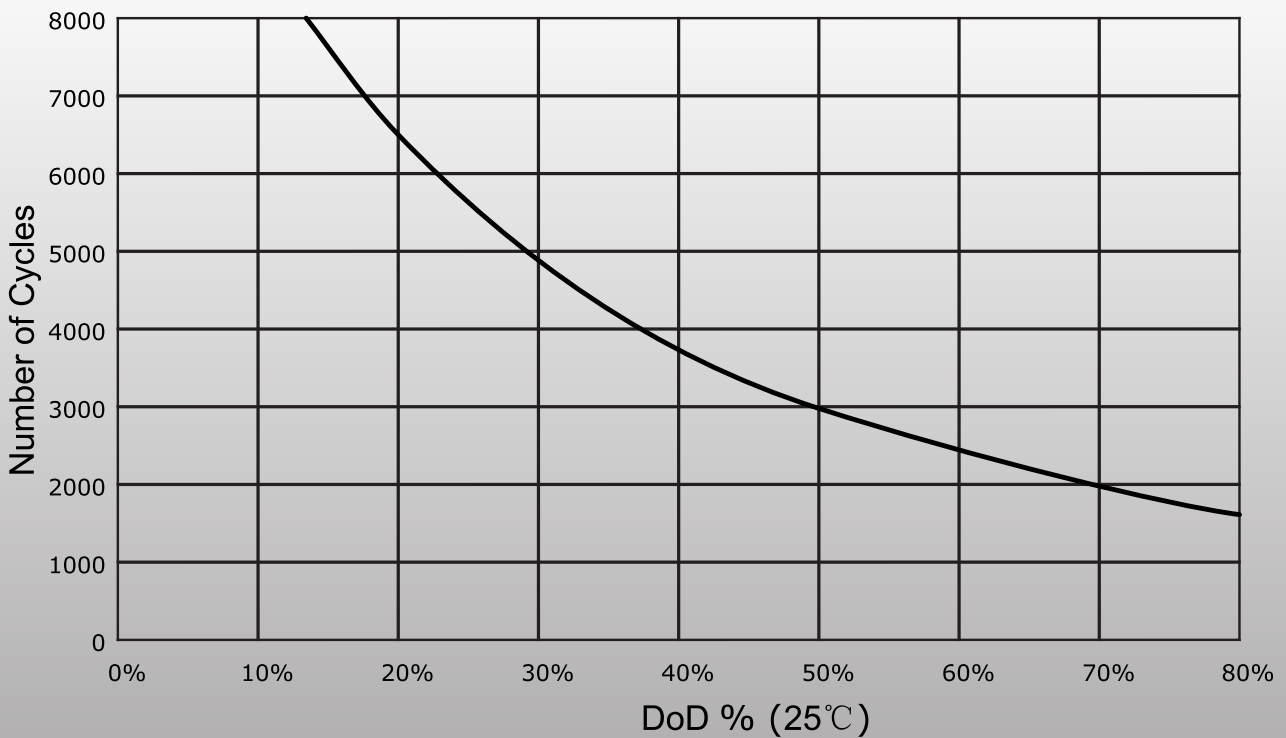
Charge voltage vs Ambient Temp. Curve



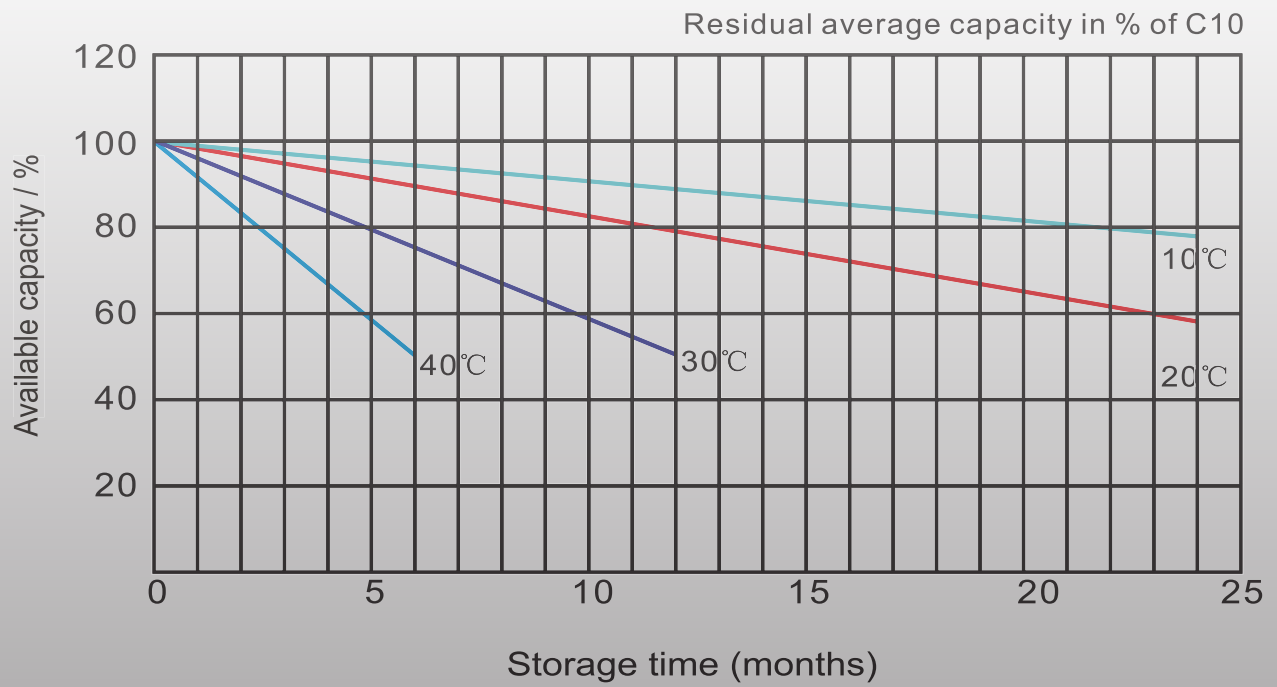
Temperature Effects in relation to Battery Capacity



Cycle Life in Relation to DOD



General Relation of Capacity vs Storage Time





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