

# OPzV Series

## GFMJ-420H 2V420Ah (NG2-420)

OPzV series are valve regulated lead-acid cells which use a combination of tubular positive plate woven gauntlets, pasted negative plate design and gel electrolyte using advanced filling techniques in production which assure superior service life and excellent battery reliability. The battery has excellent cyclic performance and charge acceptance ability. It can be used in high-low temperature environment and poor grid condition.



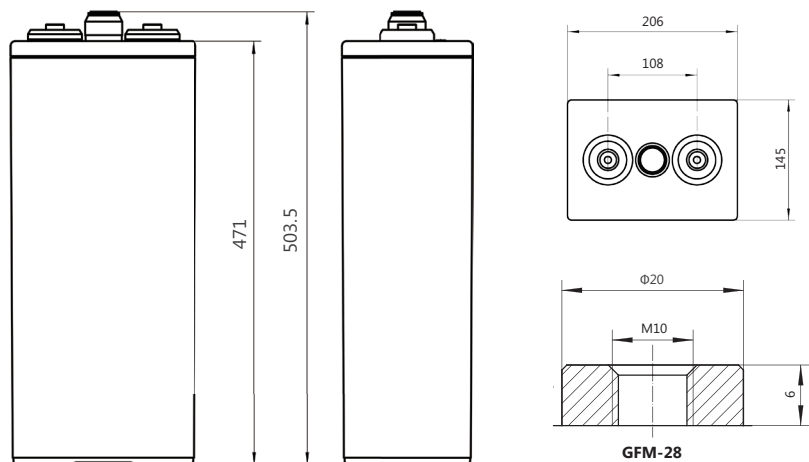
### Benefits

- Very long life according to EUROBAT Classification
- 1500+ cycles at 80% DOD
- High rate discharge performance
- High gas recombination efficiency
- Maximum charge efficiency
- GEL state electrolyte prevents leakage and layering
- Low resistance PVC-SiO<sub>2</sub> micro-porous separator ensures low self-discharge rate
- Optional racking offers easy installation (vertical or horizontal)

### Applications

- Telecommunications
- Energy storage system
- Hybrid power system
- Power system
- UPS

### Drawing



### Standards

- IEC 60896-21/22
- IEC 61427
- DIN 43539-T5
- DIN 40742
- EUROBAT guide

### Specifications

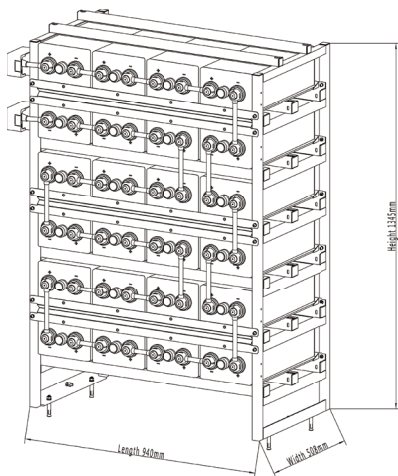
Battery Model	GFMJ-420H			
Design Life (years, 25°C)	20			
Capacity (Ah, 25°C)	10HR (42A, 1.80V)	5HR (71.4A, 1.80V)	3HR (105A, 1.80V)	1HR (210A, 1.80V)
	420	357	315	210
Dimensions (mm)	Length	Width	Height	Total Height
	145	206	471	503.5
Approx. Weight (kg)	33.5			
Reference Internal Resistance (mΩ)	0.55 (fully charged @ 25°C)			
Maximum Discharge Current (A/3 Sec.)	2438			
Self-Discharge (25°C)	≤ 3% per month			
Charge Voltage (V/cell, 25°C)	Cycle use		Float use	
	2.33 (-3.5mV/°C/cell), max charge current: 84A		2.25 (-3.5mV/°C/cell)	
Short Circuit Current (A)	3658			

## Discharge Data

Constant Current Discharge Data (25°C, A)																		
End Voltage (V/cell)	min					h												
	5	10	15	20	30	1	2	3	5	6	8	10	20	24	48	100	120	240
1.65	584	544	496	431	348	242	159.8	123.6	85.1	72.1	54.6	44.0	24.0	20.64	11.34	5.87	4.92	2.52
1.70	540	508	461	409	335	231	155.4	117.0	80.5	68.0	53.5	43.4	23.6	20.09	11.19	5.82	4.88	2.47
1.75	508	485	445	386	313	221	152.4	110.9	76.3	65.5	51.4	42.7	23.3	19.70	11.05	5.76	4.84	2.44
1.80	478	463	427	371	299	210	145.2	105.0	71.4	61.0	49.4	42.0	22.7	19.37	10.92	5.70	4.79	2.41
1.85	457	432	403	351	276	200	138	99.4	68.5	58.9	46.8	40.9	22.0	18.8	10.77	5.60	4.72	2.38

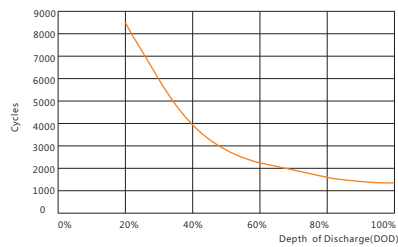
Constant Power Discharge Data (25°C, W/cell)																		
End Voltage (V/cell)	min					h												
	5	10	15	20	30	1	2	3	5	6	8	10	20	24	48	100	120	240
1.65	991	905	822	740	618	419.0	276.2	206.9	169.0	143.0	115.0	92.7	49.3	41.40	22.80	11.82	9.90	5.10
1.70	952	869	783	707	593	406.0	265.7	199.5	163.0	138.0	111.0	91.6	48.3	40.32	22.32	11.70	9.79	4.98
1.75	902	834	748	679	572	396.0	259.4	195.3	159.0	134.0	108.0	88.2	47.6	39.60	22.14	11.58	9.68	4.90
1.80	833	760	674	617	539	388.0	252.0	192.2	148.0	125.0	104.0	86.1	46.7	38.64	21.84	11.40	9.60	4.82
1.85	767	664	605	549	479	374.0	242.6	183.8	135.0	119.0	96.5	81.3	45.2	37.68	21.54	11.22	9.50	4.76

## Rack Layout

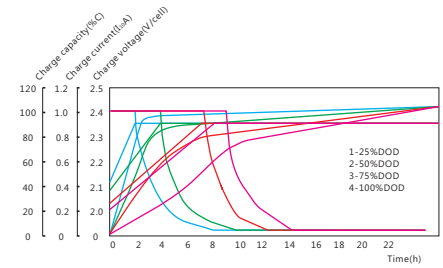


48V Standard Rack (Anti-seismic rack is optional)  
 Rack material: powder-coated steel  
 Height\*width: 6\*4/4\*6 (optional)  
 Ref. GFMJ-420H Rack (approx. weight: 885kg)

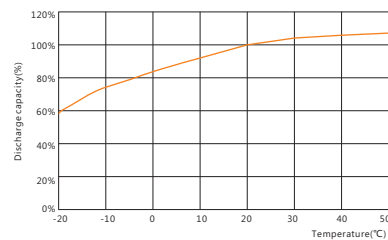
## Performance Curve



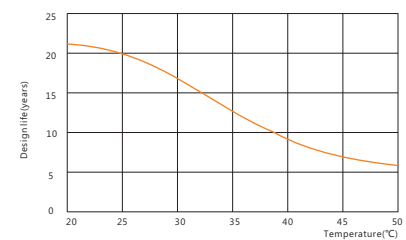
Cycle life vs. discharge depth



Charge vs. discharge depth



Capacity vs. temperature



Design life vs. temperature