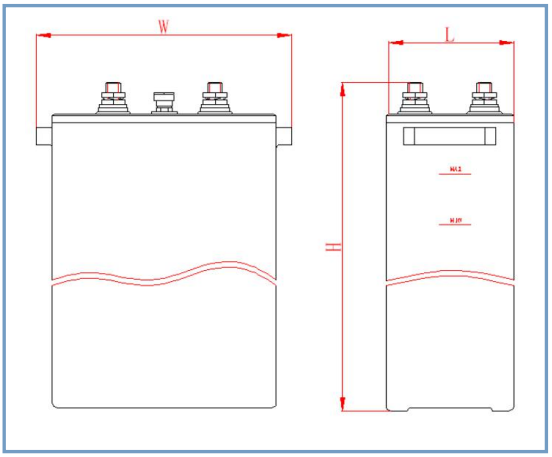
# NICKEL IRON BATTERY CYNF500 1.2V 500AH

## NIFE CYNF Series

CIYI NIFE CYNF series low rate NIFE batteries are made of pocket plate with the characteristics of thin plate,high porosity and low internal resistance.nowadays,more and more countries and governments have paid special attentions on environmental protection and actively promoted the application of Green Energy.




## Applications

- PV Systems
- Telecommunication
- Lighting
- Wind Power Generation
- UPS Back up Power Systems
- Railway Rolling Stocks

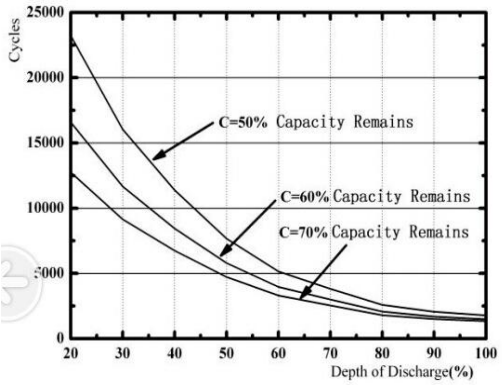
## Advantages

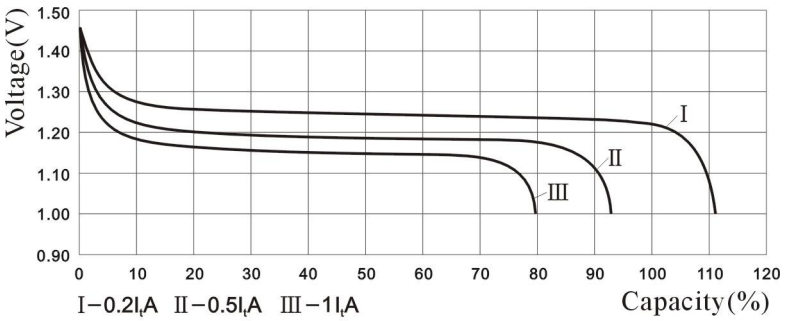
- Military Quality with Designed life up to 30-40years.
- Varta Technology and Equipment.
- Wide Working Temperature from -20℃ to +60℃.
- Pocket Technology on the positive plate make the battery high strength,high expansion resistance.
- Slurry Technology on the negative plate make the battery light weight and better low temperature performance.
- 10CA high peak discharge current.

## Technical Data

| | | | | |
|---|---|---|---|---|
| Battery Model | CYNF500 | | | |
| Voltage | 1.2V | | | |
| Capacity | 500AH | | | |
| Designed Life | 30-40 Years (Floating) | | | |
| Housing Material | PP/ABS | | | |
| Capacity(25℃) | 5HR (100A 1.0V) | | 500A | |
| Dimensions | Length | Width | Height | |
| | 138mm | 276mm | 490mm | |
| Structure | Terminal Size | Terminal Quantity | Connection Torque | |
| | M16×2 | ⊕2/⊖2 | 30±3N.m | |
| Approximate Weight | Dry Weight | | 20Kg | |
| | Wet Weight | | 27Kg | |
| Type of Electrolyte | E3(1.2g/cm$^3$ KOH ＋20g/L LiOH·$H_2O$) | | | |
| Volume of Electrolyte | 8.4L | | | |
| Internal Resistance | Full charged at 25℃: 0.50mΩ to 0.60mΩ | | | |
| Capacity Affected by Temp.(5HR) | 40℃ | 20℃ | 0℃ | 20℃ |
| | 95% | 100% | 85% | 50% |
| Dual-voltage charging voltage and current setting（25℃）: | Equalizing | | Floating | |
| | 1.60V～1.75V /Cell with Initial charging current less than 100A | | 1.48V～1.50V/Cell with Initial charging current less than 100A | |
| Max Discharging Current | 5000A | | | |
| Operating Temperature | charging | -20℃ to 60℃ | discharge | -40℃ to 60℃ |

## Service Life Drawing & Discharging Curves




## Discharge Performance

Performance after prolonged float charge of fully charged cells available current at 20±5℃

| End off voltage V/cell | Hours | | | | | | | Minutes | | | | | | Seconds | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10 | 8 | 5 | 3 | 2 | 1.5 | 1 | 30 | 20 | 15 | 10 | 5 | 1 | 30 | 5 | 1 |
| 1.00 | 52.5 | 64.4 | 100 | 163 | 220 | 261 | 313 | 398 | 451 | 478 | 528 | 600 | 765 | 830 | 940 | 968 |
| 1.05 | 51.5 | 62.4 | 99.0 | 144 | 189 | 231 | 269 | 333 | 366 | 403 | 437 | 499 | 633 | 681 | 762 | 796 |
| 1.10 | 49.5 | 58.4 | 85.5 | 126 | 170 | 195 | 224 | 266 | 301 | 320 | 344 | 403 | 515 | 546 | 601 | 608 |
| 1.14 | 48.0 | 55.8 | 75.2 | 111 | 138 | 158 | 178 | 214 | 233 | 245 | 272 | 311 | 406 | 438 | 480 | 488 |

Performance after charging the battery for 8 hrs with 0.2ItA at 20±5℃

| End off voltage V/cell | Hours | | | | | | | Minutes | | | | | | Seconds | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10 | 8 | 5 | 3 | 2 | 1.5 | 1 | 30 | 20 | 15 | 10 | 5 | 1 | 30 | 5 | 1 |
| 1.00 | 52.5 | 64.4 | 100 | 163 | 232 | 290 | 360 | 480 | 550 | 590 | 660 | 750 | 968 | 1050 | 1190 | 1225 |
| 1.05 | 51.5 | 62.4 | 99.0 | 158 | 220 | 275 | 332 | 427 | 475 | 530 | 575 | 665 | 855 | 920 | 1030 | 1075 |
| 1.10 | 51.0 | 61.5 | 95 | 152 | 212 | 250 | 295 | 365 | 413 | 444 | 484 | 575 | 735 | 780 | 858 | 868 |
| 1.14 | 50.5 | 60.0 | 94 | 146 | 186 | 216 | 250 | 314 | 342 | 366 | 412 | 478 | 624 | 674 | 738 | 750 |

ISO CE

www.ciyibattery.com