

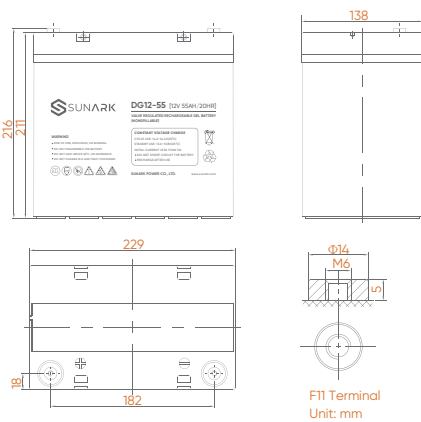
# DG12-55

## 12V 55AH

### Deep Cycle Gel Valve Regulated Lead Acid Battery

DG (Deep Cycle GEL ) series is pure GEL battery with 20 years floating design life, it is ideal for standby or frequent cyclic discharge applications under extreme environments. By using strong grids, high purity lead and patented Gel electrolyte, the DG series offers excellent recovery capability after deep discharge under frequent cyclic discharge use, and can deliver 450 cycles at 100% DOD.

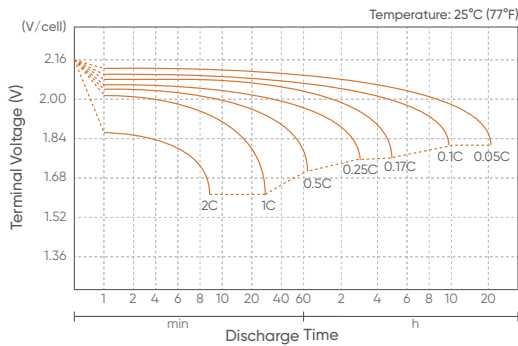


| Specification                      |                                                                                                                                                                                                                            | Dimensions                                                                          |  |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|
| Cells Per Unit                     | 6                                                                                                                                                                                                                          |  |  |
| Voltage Per Unit                   | 12                                                                                                                                                                                                                         |                                                                                     |  |
| Capacity                           | 55Ah@20hr-rate to 1.75V per cell @25°C                                                                                                                                                                                     |                                                                                     |  |
| Weight                             | Approx. 17.0 Kg (Tolerance ±3.0%)                                                                                                                                                                                          |                                                                                     |  |
| Internal Resistance                | Approx. 8.6 mΩ                                                                                                                                                                                                             |                                                                                     |  |
| Terminal                           | F15(M6) / F11(M6)                                                                                                                                                                                                          |                                                                                     |  |
| Max. Discharge Current             | 550A (5 sec)                                                                                                                                                                                                               |                                                                                     |  |
| Design Life                        | 15 years (floating charge)                                                                                                                                                                                                 |                                                                                     |  |
| Maximum Charging Current           | 11.0 A                                                                                                                                                                                                                     |                                                                                     |  |
| Reference Capacity                 | C3 37.5AH<br>C5 43.3AH<br>C10 48.2AH<br>C20 55.0AH                                                                                                                                                                         |                                                                                     |  |
| Float Charging Voltage             | 13.6V~13.8V @25°C    Temperature Compensation: -3mV/°C/Cell                                                                                                                                                                |                                                                                     |  |
| Cycle Use Voltage                  | 14.2V~14.4V @25°C    Temperature Compensation: -4mV/°C/Cell                                                                                                                                                                |                                                                                     |  |
| Operating Temperature Range        | Discharge: -40°C~60°C<br>Charge: -20°C~50°C<br>Storage: -40°C~60°C                                                                                                                                                         |                                                                                     |  |
| Normal Operating Temperature Range | 25°C ± 5°C                                                                                                                                                                                                                 |                                                                                     |  |
| Self Discharge                     | SunArk Valve Regulated Lead Acid (VRLA) batteries can be stored for up to 6 months at 25°C and then recharging is recommended. Monthly Self-discharge ratio is less than 3% at 25°C. Please charge batteries before using. |                                                                                     |  |
| Container Material                 | A.B.S. UL94-HB, UL94-V0 Optional                                                                                                                                                                                           |                                                                                     |  |

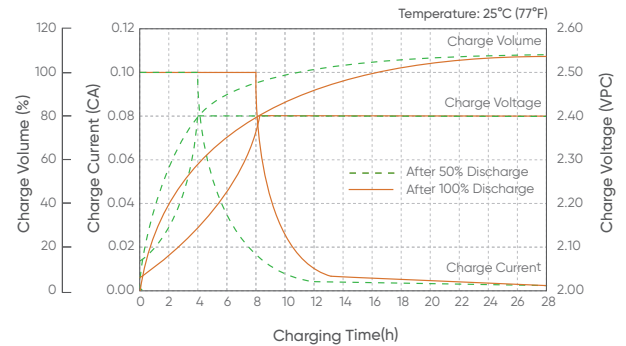
| Constant Current Discharge Characteristics: A (25°C) |       |       |       |       |       |       |       |      |      |      |      |
|------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|
| F.V/Time                                             | 10MIN | 15MIN | 30MIN | 1HR   | 2HR   | 3HR   | 4HR   | 5HR  | 8HR  | 10HR | 20HR |
| 1.60V                                                | 101.9 | 79.77 | 52.46 | 30.74 | 18.39 | 12.70 | 10.52 | 8.85 | 6.05 | 5.02 | 3.03 |
| 1.65V                                                | 97.00 | 78.14 | 51.59 | 30.60 | 18.25 | 12.65 | 10.47 | 8.80 | 6.00 | 4.97 | 2.92 |
| 1.70V                                                | 93.58 | 76.91 | 51.13 | 30.32 | 18.11 | 12.55 | 10.42 | 8.75 | 5.95 | 4.92 | 2.83 |
| 1.75V                                                | 87.37 | 74.09 | 51.24 | 30.03 | 17.97 | 12.50 | 10.32 | 8.65 | 5.90 | 4.87 | 2.75 |
| 1.80V                                                | 80.61 | 69.09 | 50.85 | 29.33 | 17.65 | 12.16 | 10.08 | 8.49 | 5.80 | 4.82 | 2.59 |
| 1.85V                                                | 72.88 | 62.68 | 48.07 | 27.86 | 16.87 | 11.63 | 9.59  | 8.13 | 5.56 | 4.68 | 2.48 |

| Constant Power Discharge Characteristics : WPC (25°C) |       |       |       |      |      |      |      |      |      |      |      |
|-------------------------------------------------------|-------|-------|-------|------|------|------|------|------|------|------|------|
| F.V/Time                                              | 10MIN | 15MIN | 30MIN | 1HR  | 2HR  | 3HR  | 4HR  | 5HR  | 8HR  | 10HR | 20HR |
| 1.60V                                                 | 181   | 145   | 98.1  | 59.2 | 36.1 | 25.2 | 20.9 | 17.6 | 12.0 | 9.99 | 5.35 |
| 1.65V                                                 | 175   | 143   | 97.0  | 59.1 | 35.9 | 25.2 | 20.9 | 17.6 | 12.0 | 9.93 | 5.26 |
| 1.70V                                                 | 171   | 141   | 97.2  | 58.6 | 35.7 | 25.1 | 20.8 | 17.5 | 11.9 | 9.84 | 5.16 |
| 1.75V                                                 | 161   | 136   | 97.5  | 58.1 | 35.5 | 25.0 | 20.6 | 17.3 | 11.8 | 9.74 | 5.06 |
| 1.80V                                                 | 150   | 127   | 96.9  | 57.0 | 35.0 | 24.3 | 20.2 | 17.0 | 11.6 | 9.65 | 4.96 |
| 1.85V                                                 | 137   | 116   | 92.1  | 54.6 | 33.7 | 23.3 | 19.2 | 16.3 | 11.1 | 9.36 | 4.67 |

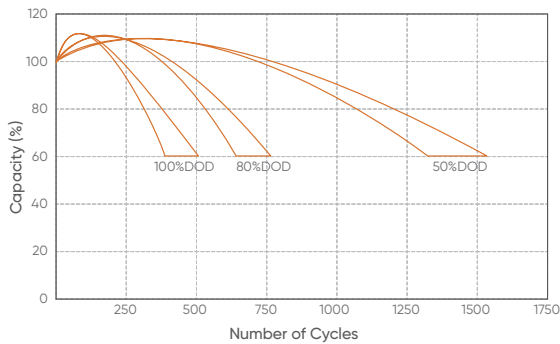
### Discharge Characteristics Curve



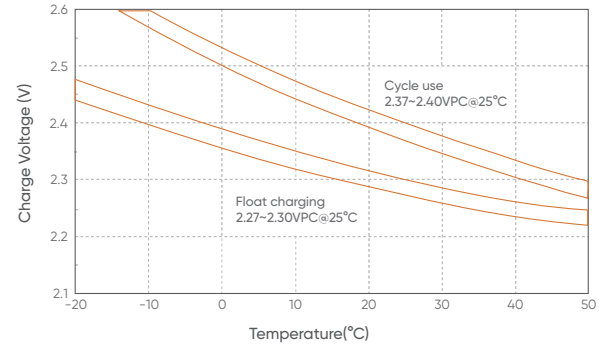
### Charge Characteristic Curve for Cycle Use (IU)



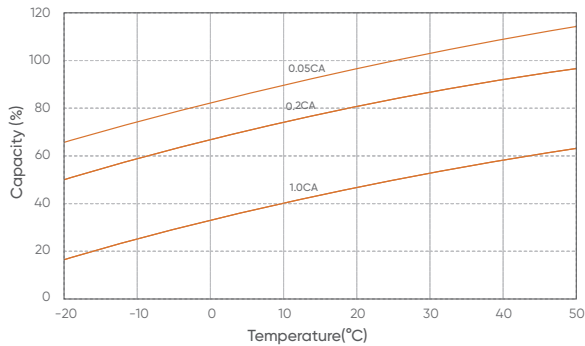
### Cycle Life in Relation to Depth of Discharge



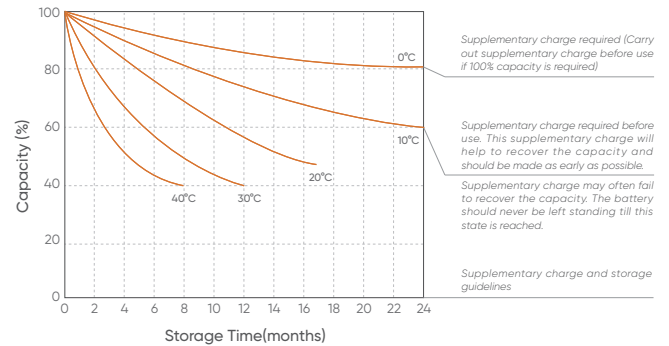
### Relationship Between Charging Voltage and Temperature



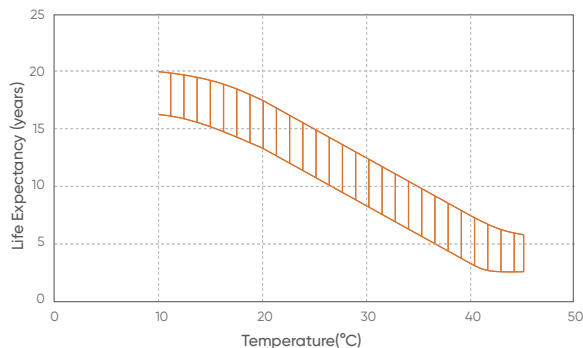
### Temperature Effects on Capacity



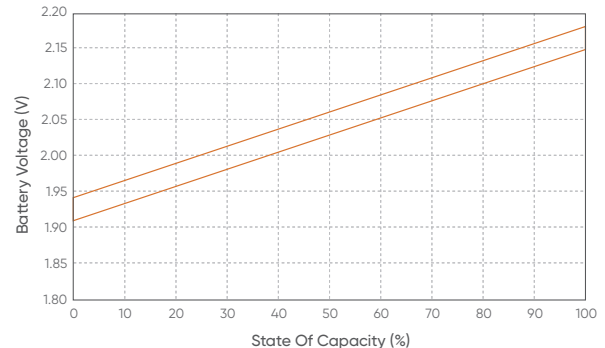
### Storage Characteristics



### Effect of Temperature on Long Term Life



### Relationship of OCV And State of Charge (20°C)



(Note) All above information shall be changed without prior notice, SunArk reserves the right to explain and update the latest information.