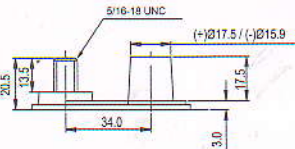
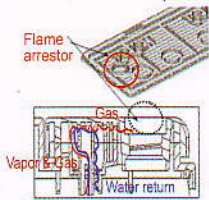


Deep Cycle Series

Structure & Characteristics

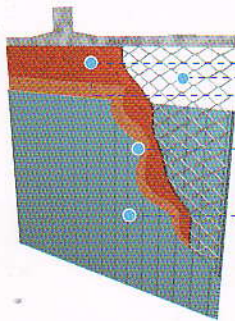
Safety & Stability

- **Excellent Design Handle**
 - Easy Battery Replacement
- **Magic-Eye Indicator**
 - Easy to check charging-state
- **Integrated-Computer-Designed & Reinforced Container**
 - Protect the battery from Vibration & Impact
- **Special Sealed Cover**
 - Prevent Acid Leakage & Minimize Gassing
 - Flame Arrestor : prevent outside sparks getting inside



- **Marine Twin(Dual = SAE/ Wing-Nut) Terminal**

Longer Life Cycle & Reduced Self-Discharge



- **Thicker Plate for Cycle Purpose**
- **Increased density of active material**
 - Increase Strength & Durability of Plate
 - Increase deep-discharge characteristic
- **Center Lug & Wrought High Tin-Calcium Grid**
 - Resistance to grid-corrosion & overcharging
 - Minimize gassing & water-loss
 - Minimize self-discharge and thermal-runaway
- **Low Resistance and High Strength Envelope Separator**
 - Increase Cranking performance and prevent internal short-circuit
- **Grid Protection System by Special Tissue**
 - Increase durability of plate by reduced aging rate of active material

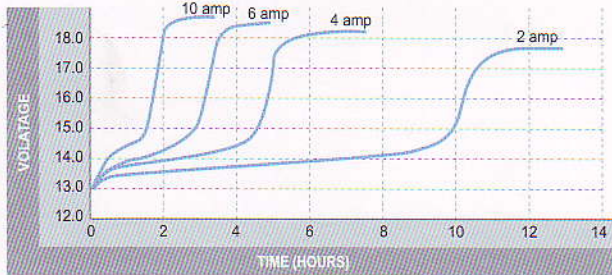
Hours of Usable Power (H.U.P)

Amp.Draw	H.U.P		
	5A	15A	25A
DC24MF	15.4hrs.	4.3hrs.	2.4hrs.
DC27MF	17.8hrs.	4.9hrs.	2.7hrs.
DC31MF	20.0hrs.	5.6hrs.	3.1hrs.

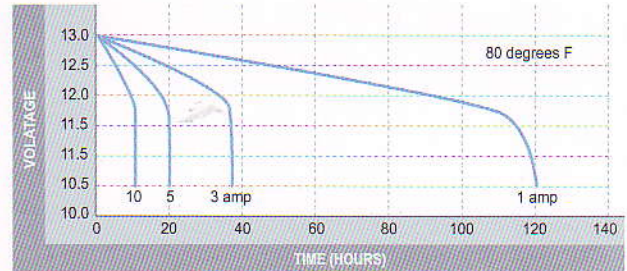
Deep Cycle Charging Instructions

Deep Cycle Battery Charge Characteristics

Recharge from 20% DOD, DC31MF



Deep Cycle Battery Discharge Characteristics



Operating Temperature Range :

- Discharge : -40°F(-40°C) to + 160°F(71°C)
- Charge : -10°F(-23°C) to + 122°F(50°C)

Recommended Operating Temperature Range

- : +74°F(23°C) to + 80°F(27°C)

Charging Method

- Batteries should be recharged within 24hours after each period of use.
- Charge time by various charging rate can be determined by the SOC(state of charge)

Method 1 ; Constant Voltage Charge

- Recommended Method -

Charge Voltage setting

Type	Voltage setting
Equalization and Cycle Service Charging Voltage	14.4 to 14.8 VDC
Float Charging Voltage	13.2 to 13.7 VDC

* Unit Average at 77°F(25°C)

End of Charge

- Current : below 1.0A during charge.
- Stabilized Open circuit voltage : 12.7V or higher.

Method 2 ; Constant Current Charge

Constant current setting and charging time

Battery		DC24MF	DC27MF	DC31MF
SOC	OCV	4.0A	4.5A	5.0A
100%	12.7V		-	
75%	12.4V		6Hr	
50%	12.2V		12Hr	
25%	12.0V		18Hr	
0%	11.9V		24Hr	

End of Charge

- Maximum voltage output across the battery terminals is maintained at constant level for two(2) hours during charge.
- Stabilized Open circuit voltage : 12.7V or higher.