

# L-16

4V 450Ah / 2V 900Ah @ C20

Battery

OASIS™



(VRLA AGM GEL)

Developed by scientists at Firefly Energy, Microcell™ Carbon Foam is a material that's revolutionizing the battery industry. Compared to spongy lead negative plates, one of the main components of conventional lead acid batteries, carbon foam Negative plates deliver longer service life, increased energy efficiency and better performance under extreme conditions. That's why we used it to create our revolutionary Firefly MCF battery.

Firefly carbon foam design resists hard sulfation and corrosion two of the primary causes of failure in lead-acid batteries, while dramatically increasing the surface area in contact with the Active material within the battery, resulting in greater energy capacity, faster recharges, and deeper discharge capability.

## SALIENT FEATURES

- Sealed and requires no maintenance
- More than 3 - times cycle life compared to flooded gel & AGM VRLA batteries at 50% DOD.
- Lower cost per kWh delivered compared to premium VRLA batteries.
- Unmatched ability to recover from extended storage in discharged state.
- Throughput efficiency greater than 90%.
- Improved high/low temperature performance. Superior protection against corrosion and sulfation related problems.
- Lowest cost of ownership Industry leading warranty.
- Compatible with existing lead acid battery recycling infrastructure.
- Outstanding long life even under partial state of charge operation.

OASIS™

**MCF-  
MICROCELL  
CARBON  
FOAM  
TECHNOLOGY**

# L-16

4V 450Ah/2V 900Ah @ C20

OASIS™

( VRLA AGM GEL Deep cycle Battery )

	4v 450 Ah	2v 900 Ah
Partial state of charge cycling Efficiency	Ampere-hour >97% & watt hour >90%	
Nominal Voltage	4 V	2 V
Maximum charge voltage	4.70 V / Battery	2.35 V / Battery
Maximum charge current	0.5CAmps current limit for continuous charge 1C Amps can be tolerated for Sporadic sessions	
Internal resistance	1.2 Milli ohms/Cell	0.60 Milli ohms/Cell
Shelf life@25°C(77°F)	2 years	
Self-Discharge	<2%perMonth	
CCA	2070Amps	4140Amps
Temperature	Low	High
Operation	-20°C/-4°F	50°C/122°F
Storage	-30°C/-22°F	60°C/140°F

Weight & Dimensions	
Length	10.55in/268mm
Width	6.85 in/174mm
Height	16.65in/423mm
Weight	95.9 lbs/43.6kgs
Volume	1203.3Cu.in/ 19.72 liters
Terminal Configuration	Cons truction
Case/Cover	3/8 "-16 UNC PPCP

### Discharge Rates to 1.75V Per Cell\*

Hours	4v 450 Ah		2v 900 Ah		Kwh
	Amps	Ah	Amps	Ah	
0.25	660.0	165	1320.0	330	0.66
1	270.0	270	540.0	540	1.08
3	114.0	343	228.0	686	1.37
5	74.5	372	149.0	744	1.49
10	42.5	425	85.0	850	1.70
20	22.5	450	45.0	900	1.80

### Battery Life\*

DOD(%)	Cycles
30	7500-11250
50	3000-3500
65	1500-2000
80	850-1100
100	500-700

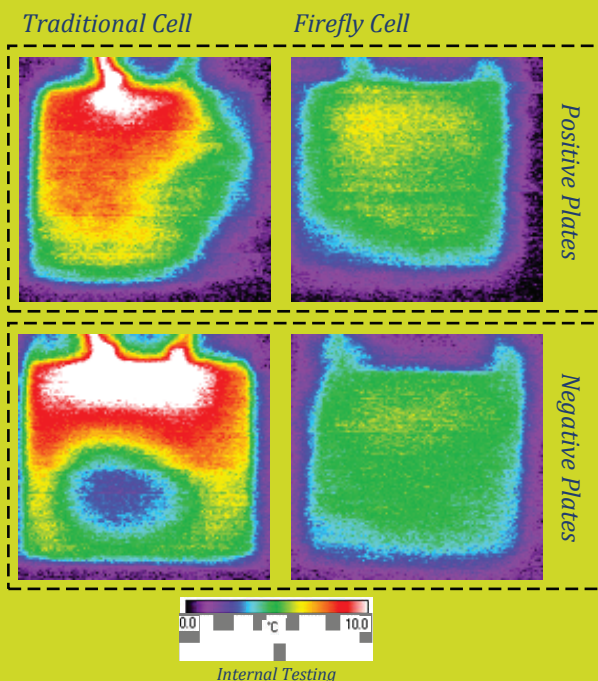
\*All above are at 25°C/77°F

### International Compliance

- IEC 60896-21/22:2004
- IEC 61427
- IS 15549:2005
- ISO 9001:2015
- IEC 60095
- IEC 61056

## Charge Temperature Compensation

Operating Temperature	°C	-20	25	40	55
	°F	-4	77	104	131
Absorption Charge Voltage	4V 450	5.15	4.70	4.55	4.40
	2V 900	2.57	2.35	2.28	2.20



Infrared thermal images snapped at the end of a 5C (12 minute) discharge of both a Firefly 3D cell and a Traditional cell.

More uniform temperature distribution, as the Carbon Foam is thermally conductive, results in

- Uniform current density distribution.
- Higher overall active material utilization.
- Less localized positive grid corrosion.
- Less localized positive active material wear out.