

## SPIRALCELL TECHNOLOGY®

**99.99% Pure Lead**  
Spiralcell design allows for lead to be used in its purest form

**Solid Cast Cell Connections**  
for increased durability and maximum plate height

**Spiralcell Technology**  
for superior vibration resistance and extended life

**Tightly Compressed Cells**  
for added vibration resistance

**Absorbent Glass-Mat Separators**  
holds electrolyte like a sponge to eliminate acid spilling



### YELLOWTOP SPECIFICATIONS

Model Number	Voltage	Cold Cranking Amps @ -18C (BCI)	Cold Cranking Amps @ -18C (EN)	Cranking Amps @ 0C	Reserve Capacity	Capacity (C/20 Rate)	Internal Resistance (ohms)	Dimensions(CM)			Weight (Kg)	Post Type	BCI Group
								Length	Width	Height			
D27F	12V	830	845	1025	140	66	.0025	30.9	17.2	21.9	24.1	SAE	27F
D34/78	12V	750	765	870	120	55	.0028	25.4	17.5	19.8	19.7	Dual SAE/ST	34/78
D75/25	12V	620	600	810	100	48	.0030	23.7	17.3	19.4	17.1	Dual SAE/ST	75/25
D34	12V	750	765	870	120	55	.0028	25.4	17.5	19.8	19.5	SAE	34
D35	12V	620	660	810	100	48	.0030	23.7	17.3	19.4	16.5	SAE	35
D51	12V	450	460	575	66	38	.0046	23.7	12.9	22.7	11.8	SAE	51
D51R	12V	450	460	575	66	38	.0046	23.7	12.9	22.7	11.8	SAE	51R
D31T	12V	900	975	1125	155	75	.0025	32.5	16.5	23.8	27.1	3/8 Stud	31T
D31A	12V	900	975	1125	155	75	.0025	32.5	16.5	23.8	27.1	SAE	31A

### BLUETOP SPECIFICATIONS

Model Number	Voltage	Cold Cranking Amps @ -18C (BCI)	Cold Cranking Amps @ -18C (EN)	Cranking Amps @ 0C	Reserve Capacity	Capacity (C/20 Rate)	Internal Resistance (ohms)	Dimensions(CM)			Weight (Kg)	Post Type	BCI Group
								Length	Width	Height			
34M***	12V	800	815	1000	100	50	.0030	25.4	17.5	19.8	17.4	Dual SAE & 5/16 Stud	34
D27M	12V	800	845	1000	140	66	.0025	30.9	17.3	22.2	24.4	Dual SAE & 5/16 Stud	27
D34M***	12V	750	765	870	120	55	.0028	25.4	17.5	19.8	19.7	Dual SAE & 5/16 Stud	34
D31M**	12V	900	975	1125	155	75	.0025	32.5	16.5	23.8	27.1	Dual SAE & 5/16 Stud	31

\*D31M model fits group size 27 marine boxes and trays \*\*34M and D34M models fit group size 24 marine boxes and trays

### REDTOP SPECIFICATIONS

Model Number	Voltage	Cold Cranking Amps @ -18C (BCI)	Cold Cranking Amps @ -18C (EN)	Cranking Amps @ 0C	Reserve Capacity	Capacity (C/20 Rate)	Internal Resistance (ohms)	Dimensions(CM)			Weight (Kg)	Post Type	BCI Group
								Length	Width	Height			
34/78	12V	800	815	1000	100	50	.0030	25.4	17.5	19.8	17.6	Dual SAE/ST	34/78
75/25	12V	720	730	910	90	44	.0030	23.7	17.3	19.4	15	Dual SAE/ST	75/25
25	12V	720	730	910	90	44	.0030	23.7	17.3	19.4	14.4	SAE	25
34	12V	800	815	1000	100	50	.0030	25.4	17.5	19.8	17.2	SAE	34
34R	12V	800	815	1000	100	50	.0030	25.4	17.5	19.8	17.2	SAE	34R
35	12V	720	730	910	90	44	.0030	23.7	17.3	19.4	14.4	SAE	35
6V	6V	800	815	1000	100	50	.0019	25.4	9.0	20.6	8.4	SAE	N/A



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# THE ULTIMATE POWER SOURCE™



## OPTIMA Marine Application Guide



OPTIMA batteries have various applications in marine market; they will keep you on the water longer. Its patented Spiralcell Technology® means more running time, faster recharge, and up to twice the life of traditional marine and RV batteries. Plus, it's spill-proof, can be stored longer, and has 15 times the vibration resistance, not to mention superior heat resistant. OPTIMA Batteries can be rotated even to 180° with no acid spillage, which can provide more possibilities of the angle of position when you load your battery.

If your boat has a lot of accessories such as lights, fish finder, trolling motor, radar, high-performance stereo, bilge pumps or chart plotter it demands more from its battery. OPTIMA deep cycle batteries provide the cycling ability your boat demands while maintaining the cranking ability it needs. When you use an OPTIMA battery, you don't need luck!



Founded in 1885, Johnson Controls is a global leader in automotive systems and facility management and control. Total sales revenue in 2012 reached US\$42 billion and Johnson Controls was awarded #5 company in Corporate Responsibility Magazine annual "100 Best Corporate Citizens" list, with its global battery market share reached 37%.



OPTIMA batteries are the premier position product of Johnson Controls Power Solutions Group, which also represent the highest technology level of the current battery market globally. OPTIMA batteries with the unique SPIRALCELL TECHNOLOGY® and SIX PACK™ design bring perfect performance in almost all extreme environments.



### OPTIMA® Batteries are outstanding in supporting Routine Voyage:

- Unequaled Vibration Resistance
- Water Resistance Able to work even After Submerged in Water
- Higher Cranking CCA even in Extreme Cold Temperature
- Lower Internal Resistance for Faster Recharge and Powerful Crank
- Highest purity lead for Longer Shelf Life
- Optimal Starting POWER (Dual Purpose and starting applications available)
- Supreme Cycle Life
- Constant Performance Quality
- Mountable in Virtually any Position
- 100% Spill Proof and 0% Maintenance-free for absolute PEACE OF MIND
- Never Worry about Sea Water Corrosion
- Can be shipped by AIR



Damage from vibration is a leading cause of battery failure. OPTIMA batteries have over **15 times more vibration resistance** than traditional batteries due to patented Spiralcell Technology®.

Traditional batteries will spill acid after a rotation of 45°, OPTIMA batteries can be **rotated up to 180°** with no acid spill. That's because they're sealed and maintenance free.

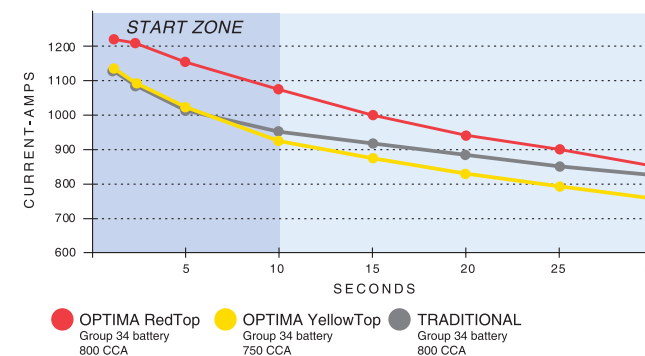


Damage from heat is the leading cause of battery failure. Even in high heat environments, OPTIMA batteries can outlast traditional **2X** batteries by **up to 2 times**.

OPTIMA® Batteries are just different. By different, we mean game-changing, and best-in-class different. We've completely revolutionized the way batteries are designed and built. And honestly, nothing else comes close.

### More Starting Power

OPTIMA batteries deliver a higher level of power to the starter in the critical first 10 seconds of the vehicle starting cycle.



### Repetitive Reserve Capacity

OPTIMA batteries have the ability to withstand significantly more discharge /recharge cycles and still deliver a high percentage of the original full capacity.

