



ELECTRIC PROPULSION

battery specifications and sizing chart **LITHIUM IRON LIFEMGPO4**

Lithium Iron LiFeMgPO4 / System	EP-600	EP-1200	EP-2000	EP-4000	EP-7000
Battery Voltage DC	36 vdc	48 vdc	72 vdc	108 vdc	108 vdc
Ampere hour charge capacity	220 ah	220 ah	220 ah	220 ah	220 ah
Number of batteries, series/parallel	6	4	12	18	18
Total battery weight (Group 24)	208 lbs	270 lbs	417 lbs	626 lbs	626 lbs
Size, 10.3" H x 5.9" W x 10.6" L	G-24	G-24	G-24	G-24	G-24
Number of battery chargers	1	2	2	3	3
Max charge time shore power or genset*	1-5 hrs	1-5 hrs	1-5 hrs	1-5 hrs	1-5 hrs
Cruising duration, cocktail speed	13.0 hrs-4 kts	13.7 hrs-4 kts	10.7 hrs-4 kts	11.8 hrs-4 kts	9.5 hrs-4 kts
Cruising duration, travel speed	7.9 hrs-5 kts	8.1 hrs-5 kts	6.4 hrs-5 kts	7.3 hrs-5 kts	5.7 hrs-5 kts
Cruising duration, full throttle	4.7 hrs-5.5 kts	4.7 hrs-6 kts	4.4 hrs-6.5 kts	2.4 hrs-7.5 kts	1.4 hrs-8 kts
Batteries only range, @ travel speed	45 miles	47 miles	36 miles	41 miles	33 miles
Battery service, cycles & life	3,000/12 yrs	3,000/12 yrs	3,000/12 yrs	3,000/12 yrs	3,000/12 yrs
Cost per charge 50% DOD @ \$0.18/kW	\$.71	\$1.42	\$1.42	\$2.13	\$2.13
Batteries + genset range, @ travel speed	165 miles	175 miles	84,7 miles	126.5 miles	70.4 miles
Minimum genset rating	1.5 kW	2.0 kW	2.0 kW	3.0 kW	3.0 kW
Batteries + genset + 2 sets of chargers	continuous	continuous	continuous	continuous	continuous
Minimum genset continuous rating	2.0 kW	3.5 kW	3.5 kW	6.5 kW	6.5 kW



Elco makes electrical propulsion systems for sailboats and displacement yachts from 12' /4 m. to 52' /16 m.

Notes:

The above genset ratings are for propulsion only, house kW loads such as lighting, appliances, and other utilities would be added.

Continuous cruise can be achieved at travel speed by twice the number of chargers in most cases.

* Max charging time shore power or genset is 1-5 hours typical maximum 50% depth of discharge.

Other considerations:

The above information is gathered from Valence data sheets for their model U24-12RT LiFeMgPO4 batteries. Valence does not make or sell chargers, the above was calculated using 18 amp LiFeMgPO4 chargers.