



ELECTRIC PROPULSION

battery specifications and sizing chart **AGM LEAD ACID**

AGM Lead Acid Batteries / System	EP-600	EP-1200	EP-2000	EP-4000	EP-7000
Battery Voltage DC	36 vdc	72 vdc	72 vdc	108 vdc	108 vdc
Ampere hour charge capacity	200 ah	200 ah	200 ah	200 ah	200 ah
Number of batteries, series/parallel	3	4	6	9	9
Total Battery Weight (4D, 129 lbs each)	389 lbs	540 lbs	778 lbs	1,158 lbs	1,158 lbs
Size, 8.63" H x 8.70" W x 20.76" L	4-D	4-D	4-D	4-D	4-D
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	11.9 hrs-4kts	12.5 hrs-4 kts	9.7 hrs-4 kts	10.7 hrs-4 kts	8.6 hrs-4 kts
Cruising duration, travel speed	7.2 hrs-5 kts	7.4 hrs-5 kts	5.8 hrs-5 kts	6.6 hrs-5 kts	5.2 hrs-5 kts
Cruising duration, full throttle	4.3 hrs-5.5 kts	4.3 hrs-6 kts	4.0hrs-6.5 kts	2.2 hrs-7.5 kts	1.2 hrs-8 kts
Batteries only range, @ travel speed	41 miles	43 miles	33 miles	38 miles	30 miles
Battery service, cycles & life	1000/8 yrs	1000/8 yrs	1000/8 yrs	1000/8yrs	1000/8 yrs
Cost per charge 50% DOD @ \$0.18 kW	\$.64	\$.64	\$.64	\$1.94	\$1.94
Batteries + genset range, @ travel speed	149 miles	159 miles	77 miles	115 miles	64 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:

AGM batteries are more expensive than flooded wet cell but save on greater service life, cycle life, efficiency, with a 15% gain on charging from solar, wind, or shore power. AGMs have a 1% to 2% per month self discharge rate as compared to 1% per day for flooded wet cell batteries.