



12/01/11

Recommended equipment for a Solar Powered Narrowboat

includes VAT at 20%

- Agni Motor. peak power 15hp@2200 RPM with motor installation set** **£2,300**
 World beating permanent magnet DC motor, Continuous rating 10hp. **[Or double motor £4,600]**
 With motor-controller for smooth, efficient motor control with waterproof enclosure and fan cooling + contactor switch+ wiring-loom + Volt/Amp meter+ key switch + panel indicator light + emergency off switch + power cables + mega fuse + isolation switch + connectors + Forward/Reverse switch Speed nob + installation manual and Solar Boat Users manual.
- 920 Amp-hour, 48V traction battery .** Approx **£3,800**
 with connectors.1100kg. Twenty-four 2 volt cells with insulated connectors. As used on milk floats, fork-lifts etc. various sizes (ie. 200mm X 137mm X 580mm high) per cell. A smaller battery may be sufficient if a large solar array or diesel generator is carried on board.
- Bearings, belts and pulley wheels.** matched to desired propeller **£ 250**
- 6kW sine-wave inverter/ charger.** Studer (Switzerland). 240VAC mains from 48V system
 with 0-70Amp 48V charger for charging from onboard generator or landline . 96% efficient. **£2,700**
 [Alternatively, 45Amp charger **£810** and optional 700 Watt sine wave inverter **£450]**
- Battery monitor,** displays Amps, Volts, AmpHours, Time to go and State of charge (%) **£ 150**
- 48-12 Volt DCDC converter,** 360 Watts **£ 270**
 for powering low voltage boat equipment- pumps, headlight, horn. Can also charge a bow-thruster battery.
- 720 Watts of monocrystalline panels, 8 X SPR-90** **£3,000**
 4.1 sq. meters of the latest high performance glass panel in black aluminium frames 8 panels, each 1012mm x 506mm x 42mm. Giving solar cruising range of **1000 miles a year at 2.4 mph** OR **500 miles at 3.3 mph**
 (For a typical narrowboat). **[OR 1440W, 8.2 sq. meters. Double the solar cruising range. £5,900]**
- Max-Power-Point Solar charge regulator** **£ 530**
 prevents batteries from overcharging and maximizes the solar charge by converting from the voltage of Maximum Power to the battery voltage. Excellent digital display and log of 64 days solar charge. This can be used with up to 2.4kW of panel at any voltage.
- Distribution components and cable circa **£ 600**

The equipment can be installed by the boat builder. Installation labour £20/hour + travel or circa £2200-3300 for the complete installation, testing and tuning. This quote excludes **battery box**, stern tube, prop and shaft. Specifications are suggested for these in the installers manual, available on payment of deposit .

Narrowboats of different lengths have similar performance			
Speed	Power	Solar miles per week 720Watts of solar panels, 15kWh/week March-Sept av.	Range on 48Volt 920Ah fully charged battery 1.1 Ton, 31 kWh
2mph	800 W	38 miles per week	78 miles per charge
3mph	1600 W	28 miles per week	58 miles per charge
4mph	4500 W	13 miles per week	28 miles per charge

Running electrical appliances or being moored in shade will reduce the solar cruising range.