

Approval Date: 20 May 1998**Reviewed on : 23 October 2007****Version: 1****Purpose**

One or two outboard engines are to propel the survey boat during bathymetric and discharge measurements and sampling.

Conditions & Requirements

- The outboard engine shall be of such a design that it operates reliably and safely under the prevailing environmental and hydraulic conditions.
- The engine will be used in sediment and debris laden water.
- The engine will be used in shallow water with a rocky bottom.
- The engine shall be easy to operate and maintain.
- The engine shall be supplied with the accessories as needed for effective use.
- All materials on the engine shall be non-corrosive.
- The engine shall have an expected technical lifetime of not less than 5 years.
- The engine shall be very sturdy.
- Operator's and maintenance manuals, related to the type and model of the outboard engine, shall be part of the delivery.
- The design of the cooling system shall be sediment and debris tolerant.
- The propeller and tail shall be impact resistant.
- The propeller shall be fitted with an adequate type of breaking pin.
- The engine shall have a provision to adjust its trimming.
- The engines shall be operated by a remote control system, located at the stern side bulkhead of the cabin.
- The control system shall have a starting switch, gear switch and a throttle system for each outboard engine and a steering wheel and emergency stop switch for simultaneous operation of the engines.
- For a good serviceability, the engines shall be of a commonly used brand in India.

Specifications

capacity	30 to 37.5 kW (40 to 50 HP)
operation	remote controlled twin engine, electric start
fuel	petrol start, petrol running
propeller	workhorse type, to be selected during trials with boat
tail length	to match with boat
alarms	over heating, oil pressure

Accessories

- toolkit
- breaking pins
- spare propellers
- maintenance instructions
- manual
- petrol tank and hoses etc.

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