

TECHNICAL SPECIFICATIONS OF UNDERWATER BRUSHLESS DC THRUSTERS FOR REMOTELY OPERATED VEHICLE

| Sl no | Item | Parameter | Specification | Quantity |
|-------|---|---|---|--|
| 1. | Thrusters (Electrical) | Depth Rating | 150m or more | Total 6 set thrusters (out of 6 set, 2 set would be supplied with contra rotary propellers) |
| | | Nominal Operating Voltage | Any specific voltage within 140-310 V (DC) range with +/-10% tolerance | |
| | | Forward Thrust | Within 35 kgf to 50 kgf | |
| | | Power Rating | Within 1.10- 2.75 kW | |
| | | Interface | Preferably Serial (RS-485) or others | |
| | | Weight (air) | Less than 10 kg including drive and control electronics. | |
| | | Power drive and control unit | Preferably, the power/drive and control electronics circuitry should be housed within the thruster housing | |
| | | Size | Preferably the propellers should be compact in size with appropriate mounting facility on ROV | |
| | | Cable Connection | Approx. 4-5 ft long both end terminated cable to be interfaced with the thrusters to connect the propeller with mating bulkhead end to assure water (leak) proof connection | |
| 2. | Connectors | Matching (or mating) connectors | The matching connectors with pigtail (i.e., bulkhead connectors), which will be fitted upon the water proof control box for connecting the thruster cable end, has to be supplied | 6 set |
| 3. | Spares (Applicable to a particular manufacturer) | O-rings, Blades, control module, cable assembly, capacitor banks etc. | <ul style="list-style-type: none"> i) Spares kit if any (O-rings, thruster blades etc.) ii) Electronics/Control module or cards iii) Sub-sea thrusters cable assembly iv) Protection circuitry or capacitor banks if needed to operate more than one thruster simultaneously directly from a battery bank | <ul style="list-style-type: none"> 1 set 2 set 1 set 1 set |

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| 4. | Accessories : | Graphs, manuals | <ol style="list-style-type: none"> 1. Thruster characteristics like i) Thrust-versus-speed Curves ii) Thrust-versus-input current curves etc are to be supplied 2. Test Certificates showing thruster characteristic and testing / experimental data are to be supplied 3. Hard/Soft Copy Manuals / CDs for thrusters (technical, operational and maintenance) 4. Suggestion for prevention scheme of RF/EM Interference may be provided. 5. Drawing of the thrusters including mounting details on ROV | |
| 5. | Delivery/Installation: Delivery and testing/installation at CSIR-CMERI, Durgapur, India | | | |
| 6. | Warranty: 2 years | | | |

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