

ANNEXURE - B

Specification require of Motor-Pump set for Water Works Department.:-

Date - 14/03/2017.

1. Capacity-100 to 120 m³/hr., Total Head-45 to 65 mtrs.

Motor: - Submersible Motor-Diameter -250mm, 50 HP, Power factor-0.86 to 0.95, 3 phase, 415+/-15%, 50Hz, Connection- Δ .

Other main specification of motor:-

Description	Material
Thrust brg.housing	C.I.
Bearing body	C.I.
Thrust brg.plate	Bz/Ferro Asb.
Thrust brg.segments	Bronze
Counter thrust brg.plate	Bronze
Bearing segment carrier	C.I.
Oil seal	St./Rubber
Bearing bush	Bronze
Stator	Steel
Rotor	Steel
Cover	C.I.
Adaptor	C.I.
Sand guard	Bronze
Coupling sleeve	Cr. St.

Pump:-Submersible Pump- Diameter-250mm, stage-3 to 5, Flow-Mixed, 150mm NRV

Other main specification of Pump:-

Description	Material
Suction Casing	C.I.
Stage Bowl	C.I.
Suction Strainer	M.S.Gal.
Pump Shaft	Cr. Steel
Impeller	Bronze
Valve body	C.I.
Valve seat	C.I.
Valve spring	Spr. Steel
Valve dish	C.I.

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Design of Submersible motor-Pump set for 50 HP:-

Submersible pump set is a compact unit made up of a submersible pump & a submersible motor with shafts connected by a sleeve and operates beneath the surface of water. This pump set is suspended vertically from raising main when installed.

Submersible pump are single or multistage centrifugal pumps with mixed flow impellers. The casings of impeller of pumps are clamped together by studs.

Submersible motors are water filled, water lubricated squirrel cage type. The axial thrust generated by the pump is absorbed by a thrust bearing fitted at the bottom of the motor. The diaphragm below the thrust bearing compensates the overpressure which arises as a result of the thermal expansion of the water filled, when the temperature of the winding rises.

Bearings The pump is provided with radial bearings. The motor has radial as well as axial thrust bearings. All the bearings are water lubricated and protected to a large degree against the ingress of sand of by suitable structural elements.

Shaft seal The motor is sealed by radial seal rings to avoid mixing of well water & the fill water.

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PQR (Pre- Qualification Requirement)

1. The party should be manufacturer of Submersible Motor-Pump set or their authorized distributor/ dealer/ franchise or supplier.
2. The party shall have the experience for Submersible Motor-Pump set to any Govt./PSU /Private Organization and provide the supporting documents of the same (The copy of PO/ Work Order. The PO/Work Order must not be older than 03 Years from the date of opening of tender).
3. Authorized distributor/dealer/franchise or supplier of Submersible Motor-Pump set shall submit authorization letter from concerned manufacturer.

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