Pump Specification BTS
Thermoplastic, Vertical Cantilevered
Centrifugal Bearingless Pump

- **GENERAL**

  Pump casing, impeller, discharge pipe and fasteners of polyvinyl chloride (PVC), Polyethylene (PE), polypropylene (PP), polyvinylidene fluoride (PVDF), ethylene-chlorotrofluoro-ethylene (E-CTFE) thermoplastic materials. Flows to 6,200 GPM (500 m3/h) and heads to 450 FT (137m). Sump depths to 4 Ft, deeper with use of tail pipe. Temperatures to 250 degrees F (120 degrees C).

- **IMPELLER**

  Machined homogeneous thermoplastic material chosen for compatibility with the pumped fluids machined (not molded) from solid plastic. Impeller to be embedded with a dynamically balanced steel insert using fusion welding. It shall be either closed or semi-open vane design depending on the service conditions. The impeller shall have a keyway for mounting on the shaft for positive drive.

- **CASING AND COVER**

  Machined homogeneous thermoplastic material chosen for compatibility with the pumped fluids machined (not molded) from solid plastic.

- **CANTILEVERED SHAFT**

  Alloy steel shaft completely sleeved with replaceable thermoplastic material, isolating it completely from the fluid being pumped. The shaft shall be supported above the coverplate by heavy-duty external ball bearings and be machined at the drive end to fit a flexible coupling

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- **DISCHARGE CONNECTION/PIPE FLANGES**

  The piping flange shall be bolted into the carbon steel cover plate, not the plastic flange on the discharge pipe.

- **COVER PLATE**

  The cover plate shall constructed in epoxy coated carbon steel and be shaped to fit the sump. The pipe flange shall be bolted into the cover plate, not the plastic discharge flange.

- **SUPPORT COLUMN AND SUCTION STRAINER**

  Fabricated in vinyl ester fiberglass reinforced plastic. (FRP) The upper portion of the column shall be fitted with a non-metallic vapor seal with the option of using a lip seal or mechanical seal as an alternative. The suction strainer will be “like” material of the casing, discharge pipe and impeller and will be connected to the suction casing or tailpipe.

- **MOTOR MOUNTING BRACKET**

  Mounting surfaces to be precision machined for a rabbet fit to align the pump and motor coupling. The assembly shall house regreasable ball bearings for positioning and locking the shaft into position and to allow adjustable impeller clearance without removing the pump from its installation. The motor mounting bracket will be painted with an epoxy coating (polyethylene) at least 160 micron in thickness.

- **FACTORY TESTING**

  Pumps will be fully tested to assure performance at conditions of service. The test data will permanently recorded and provided upon request.