



MYERS®

## Specifications VS30, VS50, VH30, VH50 AND VH75

---

**PUMP MODEL** – Pump shall be of the centrifugal type Myers® model \_\_\_\_\_ or equal with an integrally built-in grinder unit and submersible type motor. Discharge shall be standard 2" flange.

**OPERATING CONDITIONS** – Pump shall have a capacity of \_\_\_\_\_ GPM at a total head of \_\_\_\_\_ feet and shall use a \_\_\_\_\_ HP motor operating at 3450 RPM.

**MOTOR** – Pump motor shall be of the totally enclosed, submersible, squirrel cage induction type rated \_\_\_\_\_ horsepower at 3450 RPM, 60 Hz.

Motor shall be for single phase 230 volts \_\_\_\_\_ or three phase 200 volts \_\_\_\_\_, 230 volts \_\_\_\_\_, 460 volts \_\_\_\_\_ or 575 volts \_\_\_\_\_. Single phase motors shall be of capacitor start, capacitor run, NEMA L type. Three-phase motors shall be NEMA B type.

Stator winding shall be of the open type with Class F insulation good for 155°C (311°F) maximum operating temperature. Winding housing shall be filled with a clean high dielectric oil that lubricates bearings and seals and transfers heat from windings and rotor to outer shell. Air-filled motors, which do not have the superior heat dissipating capabilities of oil-filled motors, shall not be considered equal.

Motor shall have two heavy duty ball bearings to support pump shaft and take radial and thrust loads and a sleeve guide bushing directly above the lower seal to take radial load. Ball bearings shall be designed for 50,000 hours B-10 life. Stator shall be heat shrunk into motor housing.

A heat sensor thermostat shall be attached to top end of motor winding and shall be connected in series with the magnetic contactor coil in control box to stop motor if motor winding temperature reaches 221°F. Thermostat to reset automatically when motor cools. Three heat sensors shall be used on three-phase motors.

The common motor pump and grinder shaft shall be of #416 stainless steel threaded to take pump impeller and grinder impeller.

**SEALS** – Motor shall be protected by two mechanical seals mounted in tandem with a seal chamber between the seals. Seal chamber shall be oil filled to lubricate seal face and to transmit heat from shaft to outer shell.

Seal face shall be carbon and ceramic and lapped to a flatness of one light band. Lower seal faces shall be \_\_\_\_\_ carbide (optional).

A double electrode shall be mounted in the seal chamber to detect any water entering the chamber through the lower seal. Water in the chamber shall cause a red light to turn on at the control box. This signal shall not stop motor but shall act as a warning only, indicating service is required.

**PUMP IMPELLER** – The pump impeller shall be of the semi-open type. Impeller shall be of 316 SST and shall be threaded onto stainless steel shaft.

**GRINDER MECHANISM** – The stationary cutter shall be circular in design and contain evenly spaced cutting slots that extend outwards from the inlet of the pump. The slots are tapered inward toward the inlet to help direct slurry through the cutting slots into the pump. The slots are to be angled, or undercut, to help maintain a sharp axial cutting edge, even as the axial face wears during use. The stationary cutter shall be pressed into the suction opening of the volute and held in place by four 300 series stainless steel screws. The stationary cutter shall be provided with tapped back-off holes so that screws can be used to remove the cutter from the volute. The rotating cutter shall contain three axial cutting arms extending from the hub, perpendicular to the pump shaft, that are shaped to aid in the rejection of suspended debris that has not been sufficiently reduced in size by the axial cutting action. The curved, leading edge of the cutting arms shall create a scissor action with the cutting slots of the stationary cutter plate to minimize the required torque. This will allow the cutter to macerate tough objects and prolong cutter life. Serrations on the hub of the cutter add additional cuts that prevent debris from becoming entangled within the rotating cutter. The rotating cutter shall thread onto the end of the pump shaft and be secured by a 300 series stainless steel washer in conjunction with a 300 series stainless steel flat head cap screw threaded into the end of the shaft. Both stationary and rotating cutters shall be made of 440C stainless steel, hardened to Rockwell 57-60C and ground close to tolerance. The grinder shall be capable of grinding normal domestic sewage into a fine slurry.

**CORROSION PROTECTION** – The pump shall be painted with waterborne hybrid acrylic/alkyd paint. This custom engineered, quick dry paint shall provide superior levels of corrosion and chemical protection. All fasteners to be 300 series stainless steel.

**BEARING END CAP** – Upper motor bearing cap shall be a separate casting for easy mounting and replacement.

**POWER CABLES** – Power cord and control cord shall be double sealed. The power and control conductor shall be single strand sealed with epoxy potting compound and then clamped in place with rubber seal bushing to seal outer jacket against leakage and to provide for strain pull. Cords shall withstand a pull strain.

Insulation of power and control cords shall be type SOOW or W. Both control and power cords shall have a green carrier ground conductor that attaches to motor frame.