

# KEEN PUMP

## 1 HP Grinder Pumps

KPCG-21

### Performance Specifications

**Pump Model** – Pump shall be of the progressive cavity type, KPCG-21, with an integrally built-in grinder unit and submersible type motor. The grinder unit shall be capable of macerating all material in normal domestic and commercial sewage, including reasonable amounts of foreign objects such as sanitary napkins, disposable diapers, thin rubber, small wood, plastic and the like to a fine slurry that will easily pass through the pump and 1-1/4" NPT discharge.

**Operating Conditions** – The pump shall have a capacity of \_\_\_\_\_ GPM at a total head of \_\_\_\_\_ Feet, and shall use a motor rated at 1 HP and 1750 RPM.

**Rotor** – Progressive cavity, full lobe, chrome plated hardened tool steel, hardness 60 Rockwell .

**Stator** – Progressive cavity, full lobe, special blend BUNA material for improved wear and chemical resistance.

**Grinder Construction** – Both grinder impeller and shredding ring shall be of 440C stainless steel hardened to 56-60 Rockwell C. The grinder assembly shall consist of a grinder impeller and shredding ring mounted directly below the volute passage. The grinder impeller is threaded to the stainless steel motor shaft, locked with a screw and washer. The shredding ring shall be pressed into the cast iron volute for easy removal. All grinding of solids shall be from the action of the grinder impeller against the shredding ring. There shall be 7,400 cuts / second.

**Seals** – The motor shall be protected by a dual mechanical seal construction mounted in tandem. The dual mechanical seal face shall be silicon and carbide, lapped to a flatness of one light band.

**Motor** – The pump motor shall be of the submersible type, rated 1 HP, 1750 RPM. The motor shall be for 60 Hz, 230 volt, single-phase operation. Single-phase motors shall be capacitor start, capacitor run type for high starting torque.. Run capacitor ratings shall not exceed 300 volts. Major operating temperature must not exceed Class B ratings.

The stator winding shall be of the open type with Class F insulation. The stator shall be pressed into the cast iron motor housing. Winding housing shall be filled with clean, high dielectric oil that lubricates bearings and seals, transferring heat from windings and rotor to the outer cast housing. Air-filled motors, which do not have the superior heat dissipating capabilities of oil-filled motors, shall not be considered equal.

The motor shall have two heavy-duty ball bearings and one sleeve bearing to support the pump shaft, taking radial and thrust loadings. Ball bearings shall be designed for a minimum 50,000 hours B-10 life. The stator shall be pressed into the motor housing. The common motor pump and grinder shaft shall be of 416 SST, threaded to take the pump and grinder impeller.

Single-phase motors shall have automatic reset overload protection attached to the top end of the motor windings to stop the motor if the motor winding temperature reaches 130 degrees C. The high temperature shut-off will cause the pump to cease operation, should a control failure cause the pump to run in a dry wet well. The overload shall automatically reset when the motor cools to a safe operating temperature.

**Power Cord** – The motor power cord shall be 12 Ga. SJOW/SJOWA or SOOW. The cable jacket shall be sealed at the motor entrance by means of a rubber compression washer and compression nut. An epoxy filled cord cap seals the outer cable jacket and individual leads to prevent water from entering the motor housing. Individual conductor strands shall