

KEEN PUMP

3, 5 & 7.5 HP Grinder Pumps

KHG Series

Performance Specifications

Pump Model – Pump shall be of the centrifugal type, KHG Series, 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 easily pass through the pump and 2" discharge pipe. Discharge shall be standard 2.5"/ 3", 150 lbs ANSI flange.

Operating Conditions – The pump shall have a capacity of _____ GPM at a total head of _____ feet, and shall use a motor rated at _____ HP and 3450 RPM.

Pump Impeller – Ductile iron and threaded on a stainless steel shaft. The impeller shall be of the recessed vortex type to provide an unobstructed passage through the volute for the ground solids.

Grinder Construction – Both grinder impellers 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 a stainless steel shaft, locked with a screw and washer. The shredding ring shall be pressed into an iron holding flange for easy removal. The flange shall be provided with tapped back-off holes so screws can be used to push the shredding ring from the housing. All grinding of solids shall be from the action of the grinder impeller against the shredding ring. There shall be 12,400 cuts / second.

Seals – Type 21, dual mechanical seal construction mounted in tandem, shall protect the motor. Primary seal shall be silicon / carbide. Secondary seal shall be silicone / carbide. The seal face shall be lapped to a flatness of one light band. A double electrode shall be mounted in the seal chamber to detect 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 the motor, but shall act as a warning only, indicating service is required.

Motor – The pump motor shall be of the submersible type, rated _____ HP, 3450 RPM. The motor shall be for 60 Hz, either 208, 230 or 460 volt, single or three-phase operation. Major operating temperature must not exceed Class B ratings.

The stator winding shall be of the open type with Class F insulation. Oil filled motors, for maximum heat transfer efficiencies and continuous bearing lubrication.

An upper motor bearing cap shall be a separate casting for easy mounting and replacement. The motor shall have two heavy-duty ball bearings to support the pump shaft, taking radial and thrust loadings. A sleeve guide bushing is mounted directly above the lower seal to take radial load and act as a flame path for the seal chamber. 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.

Motors shall have a heat sensor thermostat attached to the top end of the motor windings to stop the motor if the motor winding temperature reaches 200 degrees F. 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 thermostat shall automatically reset when the motor cools to a safe operating temperature.

Power Cord / Control Cord – The motor power cord shall be 10 Ga. SOW/SOWA or SOOW. The control cord shall be 18 Ga. SJOW / SOW. Both cable jackets shall be sealed at the motor entrance by means of a rubber compression washer and compression nut. An epoxy filled cord cap shall seal the outer cable jackets and individual leads to prevent water from entering the motor housing. Individual conductor strands shall be soldered within the epoxy seal. Cords shall withstand a pull of 300 pounds.