

KPCLG

PROGRESSIVE GRINDER SERIES

Best Value Pump on the Market.



"Slicer"

HIGHEST PUMP PERFORMANCE

- Flows to 20 GPM
- 11 GPM @ 75 PSI
- Higher Flow Capacities to Keep Pipe Lines Scoured and Clean
- Strong Performance at High Pressures

FIELD PROVEN RELIABILITY & LONGEVITY

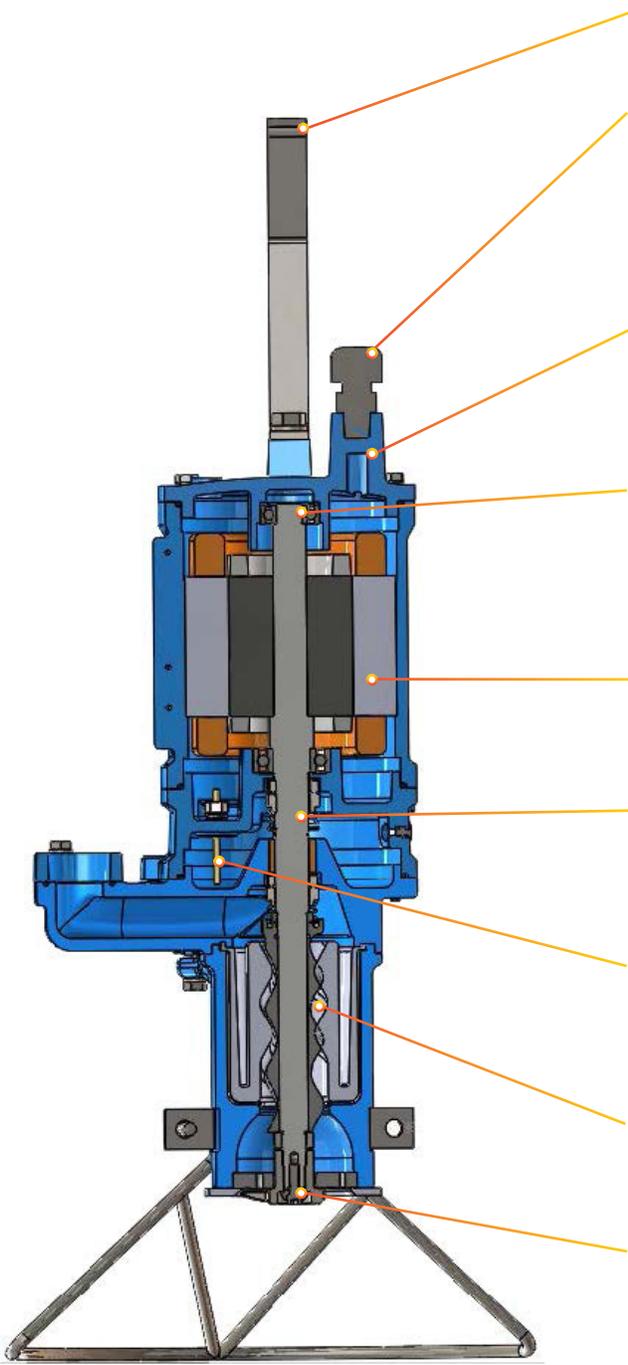
- Handles Extreme Operating Conditions
 - High Pressures
 - Long Run Times
 - Fluctuating System Requirements

ADVANCED GRINDER SLICING DESIGN

- Effectively Breaks Down Solids
- Prevents Jamming
- 100% Hardened Stainless Steel

EASY INSTALLATION

- Compact Size, Easy to Handle
- Rugged Construction
- Easily Fits into Existing Pump Stations



LIFTING HANDLE

- Stainless Steel for Non-Corrosive

BEST CABLE SEALING SYSTEM KEEPS WATER OUT

- Triple-Water Barrier Intrusion
- SST Compression Grommet
- Motor Leads, Power Cable Leads - Solder Block
- Epoxy Potting

RUGGED PUMP CONSTRUCTION

- Strongest Class 35 Iron Castings
- No Plastic Materials

- Three Bearing Design Upper /Lower Ball Bearing and Brass Sleeve Bearing
- Lower Sleeve Bearing Provides Strongest Alignment for Shaft And Motor Support

STRONGEST MOTOR DESIGN IN OUR MARKET FOR BEST PERFORMANCE, LONGEVITY IN TOUGH APPLICATIONS

SUPERIOR DOUBLE MECHANICAL SEAL - SILICON CARBIDE W/ VITON® ELASTOMERS

- Not Damaged by Abresive Materials

MOISTURE SENSOR

- Alerts Customer if Lower Seal Fails Via Light Inside Control Panel

DURABLE STAINLESS STEEL ROTOR WEAR-RESISTANT STATOR

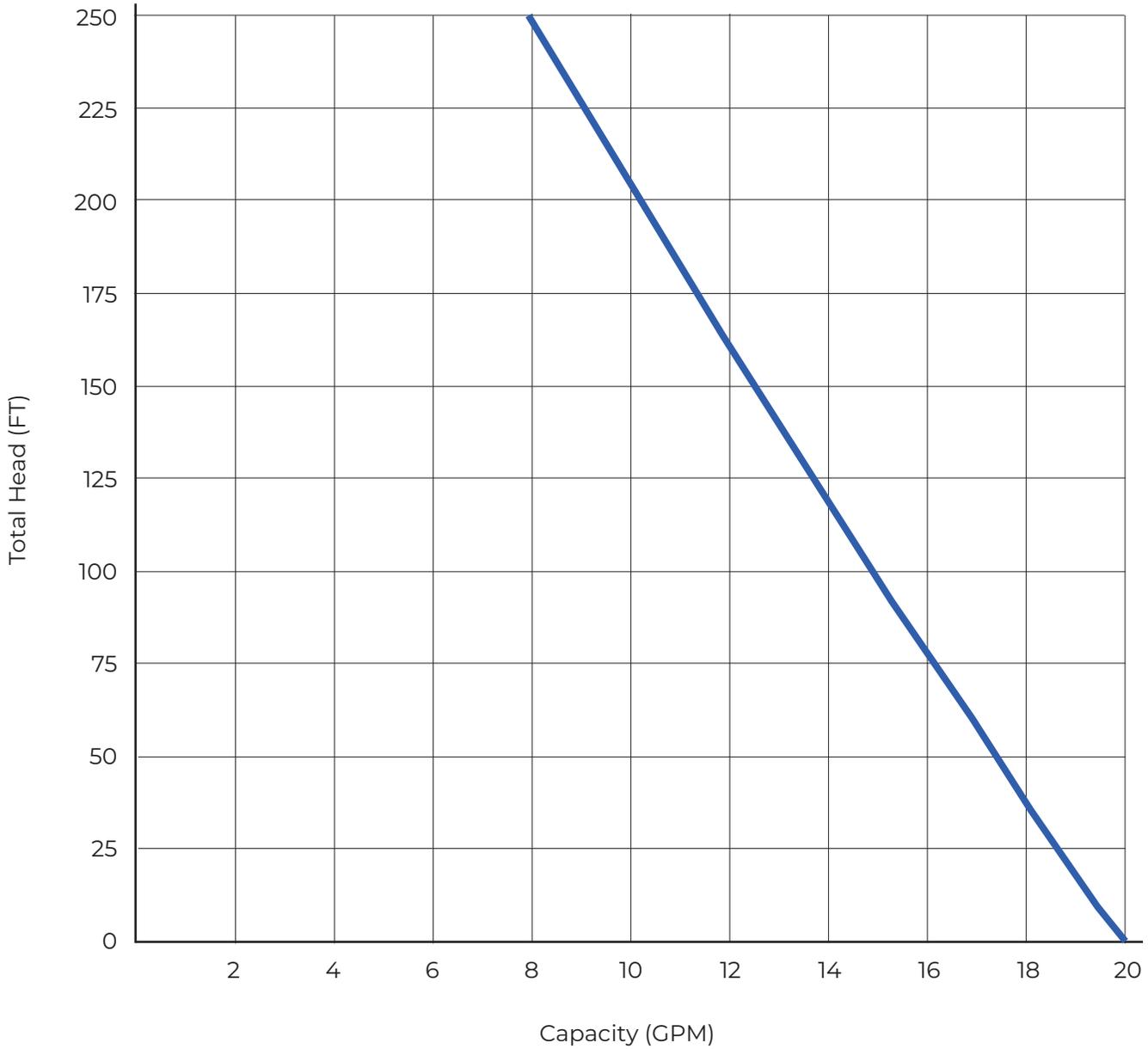
- Proprietary Construction for Long Life

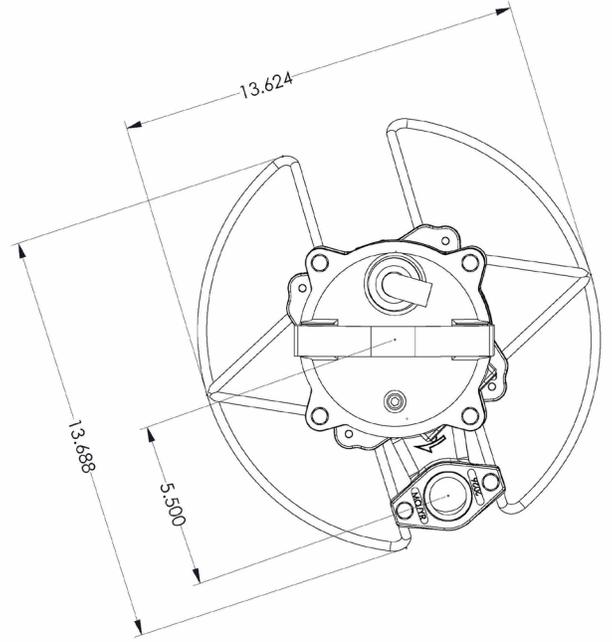
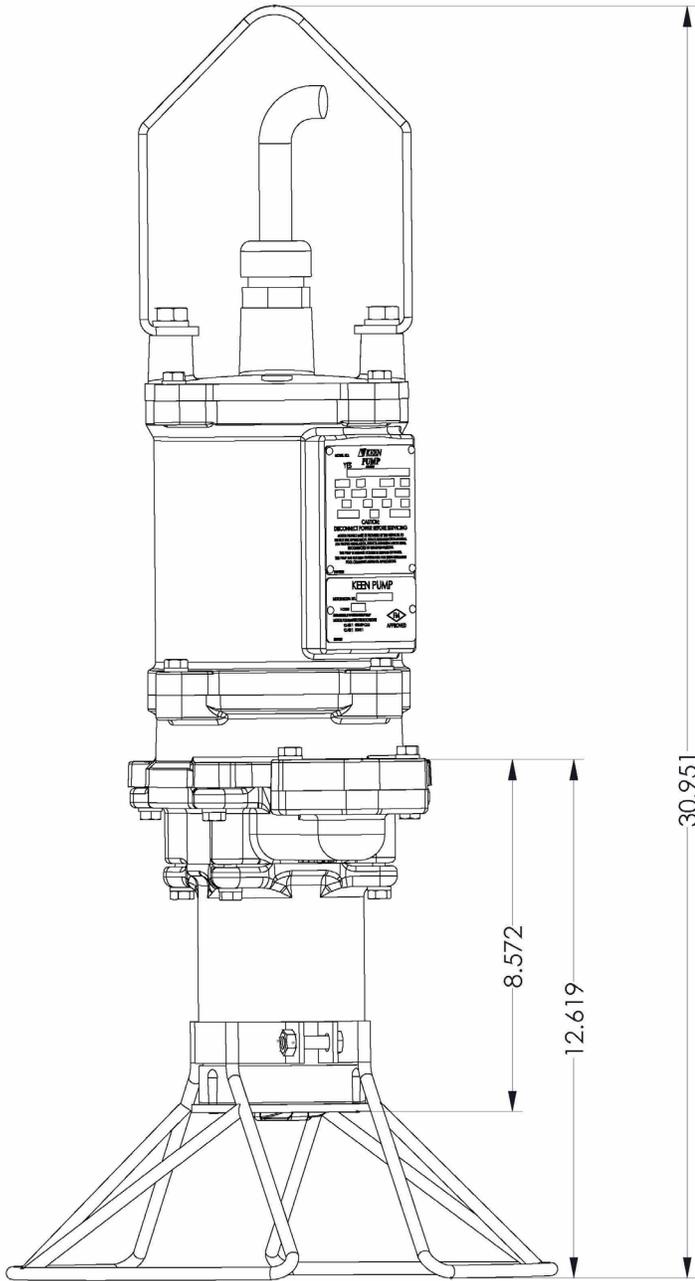
ADVANCED SLICING SYSTEM

- Highly Efficient Solids-Slicing
- Hardened Stainless Steel

PUMP SERIES	KPCLG		1HP PROGRESSIVE CAVITY GRINDER	
Speed	1750 RPM	Discharge	1-1/4"	

BEST PUMP PERFORMANCE IN THE INDUSTRY!





PHYSICAL DATA

Discharge Size	1-1/4" NPT or 2-Bolt Flange Vertical
Impeller Type	Progressive Cavity – Rotor w/ Stator
Power/Control Cable Length	30' Standard
Paint	Blue, Powder Coat Paint Finish

MOTOR CONSTRUCTION

Motor Type	Enclosed Submersible Oil Filled
NEMA Insulation Code	Class N
Service Factor	1.2
Motor Protection	Thermal Sensors Embedded in the Windings
Maximum Stator Temperature	392°F (200°C)
Power Cord	14-5 SOOW - 600V, 90° C

MATERIALS OF CONSTRUCTION

Cord Entry	Cast Iron, ASTM A48, Class 35
Motor Housing	Cast Iron, ASTM A48, Class 35
Bearing Housing	Cast Iron, ASTM A48, Class 35
Volute	Cast Iron, ASTM A48, Class 35
Rotor, Wobble	Stainless Steel
Stator, Full Lobe	EPDM Blend
Stator Liner	Nylon
Shaft	ANSI 400 Stainless Steel
Rotating "Axial" Slicer	440 SST Hardened 58-60 Rockwell C
Stationary "Axial" Slicer	440 SST Hardened 58-60 Rockwell C
Inboard Mechanical Seal	Silicon Carbide / Silicon Carbide, Viton® Elastomers
Outboard Mechanical Seal	Silicon Carbide / Silicon Carbide, Viton® Elastomers
Fasteners	304 Stainless Steel
O-Rings	Fluorocarbon
Upper Bearing	Conrad Style Single Row Deep Groove Ball Bearing 100,000 Hours, L-10
Lower Bearing	Conrad Style Single Row Deep Groove Ball Bearing 100,000 Hours, L-10
Sleeve Bearing	Bronze, Sintered

THERMAL DATA	
Maximum Liquid	140° F (60° C)
Maximum Stator	392°F (200°C)
Heat Sensor	Open: 275° F (135° C) Max. / 257° F (125° C) Min.
	Closed: 205° F (96° C) Max. / 154° F (68° C) Min.
Oil Flash Point	390° F (199° C)

ELECTRICAL DATA				
RPM	1750			
Electrical Ratings	Heat Sensor	24VDC, 5AMPS	115VAC, 5AMPS	230VAC, 5AMPS
	Seal Fail	300VAC 5mAMPS		
Voltage Tolerance	± 10%			
Start Kit	Start Capacitor = 216 ufd, 250 VAC			
	Run Capacitor = 30 ufd, 370 VAC			

MODEL EXTERNAL CAPS (SLICER)	HP	VOLTS	PHASE	NEC CODE	SERVICE FACTOR	FULL LOAD AMPS	START AMPS	FULL LOAD KW	FULL LOAD KVA
KPCLG-2081	1	240	1	G	1.2	9.0	40.5	1.87	2.34
KPCLG-2401	1	240	1	G	1.2	8.0	37.0	1.84	2.30

1 HP GRINDER PUMPS

MODEL NO. KPCLG

PUMP MODEL – Pump shall be of the progressive cavity type, KPCLG, with an integrally built-in grinder unit and submersible type motor.

OPERATING CONDITIONS – The pump shall have a non-overloading maximum capacity of a maximum total dynamic head of ____ feet, and shall use a motor rated at 1 HP and 1750 RPM. The grinder unit shall be capable of macerating all material in typical domestic and commercial sewage, including reasonable amounts of foreign objects such as sanitary napkins, disposable diapers, thin rubber, sanitary wipes, floor pads, small wood, plastic and the like to fine slurry that will easily pass through the pump and 1-1/4" NPT discharge.

CONSTRUCTION – Major pump castings shall be of gray cast iron, ASTM A-48, Class 35, with smooth surfaces devoid of blowholes or other irregularities. All exposed nuts or bolts shall be 304 stainless steel. All metal surfaces coming into contact with the pumpage, other than stainless steel, shall be protected by a baked on, powder coat paint finish to the exterior of the pump.

Sealing design shall incorporate metal-to-metal contact between machined surfaces. Critical mating surfaces where watertight sealing is required shall be machined and fitted with O-rings. Fittings will be the result of controlled compression of rubber O-rings in two planes and O-ring contact of four sides (rabbet joint construction) without the requirement of a specific torque limit. No secondary sealing compounds, elliptical O-rings, grease or other devices shall be used.

ROTOR – Progressive cavity full lobe rotor to be polished stainless steel construction.

STATOR – Progressive cavity design stator that has a full lobe. Material shall be ethylene propylene synthetic blend. Stator material to be acceptable for wastewater, having good resistance properties to heat, weather, grease, detergents, and abrasive materials.

STATOR LINER – Stator to be encapsulated by stator liner. Liner material shall be high density polyethylene.

Liner to stabilize stator when in use, allowing for improved wear resistance and longer stator life.

SLICER GRINDER CONSTRUCTION – Maceration is accomplished by a combination of a rotary slicer and stationary slicer plate. Rotary slicer shall consist of (3) blades which protrude away from the inlet. Rotary slicer shall be bolted to shaft within close tolerance of grinding slicer plate. The stationary slicer plate shall consist of engineered-shaped holes for optimum cutting of debris. A slicer plate shall contain grooved slots to eject pump media away from underside of rotary cutter. Slicer plate shall be fastened with countersunk head screws that are flush with surface of plate. Pumps with protruded or exposed head fasteners shall be considered not equal. Both rotary slicer and slicer plate shall be 440C stainless steel hardened to 58-60 Rockwell C.

SEALS – Type 21, domestic manufactured, dual mechanical seal construction mounted in tandem, shall protect the motor. Standard construction of primary seal shall be silicon / carbide with Viton® elastomers. Standard construction of secondary seal shall be silicon / carbide with Viton® elastomers. The seal face shall be lapped to a flatness of one light band. For remote start/run capacitor pumps ONLY, an 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. Lip seal arrangements shall not be considered equal.



MOTOR – The pump motor construction shall be per NEMA MG-1 1.15 standard and shall be of the submersible type, rated 1 HP, 1750 RPM. The motor shall be for 60 Hz, either 208 or 230 volt, single-phase operation. Single-phase motors shall be capacitor start, capacitor run type for high starting torque. Start and run capacitors, and starting switch will be found remotely in a control box for standard pump model. Major motor operating temperature must not exceed Class N ratings.

The stator winding shall be of the open type with Class N insulation. Any other construction shall not be considered equal. 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.

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 dr wet well or any condition that may cause the pump to run outside of the specified operating temperature range.

BEARINGS / SHAFT – The motor shall have two heavy-duty ball bearings and one sleeve bearing to support the pump shaft taking radial and thrust loadings. Bearings shall be designed to an ABEC System 1 or better. The upper bearing shall be a Conrad type, single row, deep groove ball bearing designed to adequately handle the required radial loads. The lower bearing shall be a single-row deep groove ball bearing designed to adequately compensate for the axial loads and radial forces. Bearings shall be designed to deliver a minimum.

L-10 bearing life of 100,000 hours when operation is within the limitations of the manufacturer's performance curve. The bearings shall be lubricated in oil and will not require maintenance as described in ANSI/HI 1.4-2010 A.6.

POWER CORD – The motor power cord shall be 14 Ga. Type SOOW, UL listed, CSA approved cable. The cable jacket shall be sealed at the motor entrance by means of an agency-approved rubber compression washer and compression nut. An epox-filled cord cap seals the outer cable jacket and individual leads to prevent water from entering the motor housing. Cord shall withstand a pull strain to meet FM requirements.

MOISTURE PROBE – Rotor and stator in the motor housing shall be separated and protected from the pumped liquid by an oil filled seal housing incorporating two type 21, Silicon Carbide upper and lower mechanical seals. The seal housing shall be equipped with a moisture sensing probe installed between the seals, and the sensing of moisture in the seal chamber shall be automatic, continuous, and not require the pump to be stopped or removed from the wetwell.