The KEEN PUMP KG2-115 series centrifugal grinder pumps easily handle residential, light commercial or industrial sanitary waste, reducing it to fine slurry. The KG2-115 pump is designed for use in pressure sewer applications or any piping network.

The recessed vortex impeller design of the KG2-115 grinder pump provides trouble free, non-overloading operation over the entire performance curve. The KG2-115 pump produces capacities to 20 gpm with heads to 130 feet.

The modular design provides quick access to the internal start capacitor kit. Hardened stainless steel grinder assembly and many quality features:

The KG2-115 series pump features:
- Strong, 2 HP, 115 volt motor
- Internal start component (no control box req’d)
- Potted cord cap assembly
- Dual silicon carbide shaft seals
- 3 Bearings
- Pressed in motor
Features and Benefits

1. Triple Sealed Cable Entrance
Stainless steel strain relief cord grip with compression grommet protects outer cord jacket. Epoxy filled inner cord cap with individually soldered wires provide anti-wicking moisture protection to the motor even if power cable is cut or damaged.

2. Internal Start Kit
Start / Run capacitor with relay securely positioned in dry compartment. Rubber compression grommet for wire leads to motor prevents oil from entering chamber. 4 bolts quickly removes cord cap for easy servicing.

3. Modular Pump Design
Commonality of parts across the Keen product line minimizes the amount of parts required for servicing. Heavy duty ASTM A48, Class 30 cast iron components.

4. Strong Motor
High torque for powerful and reliable pump operation. Pressed stator securely holds motor and efficiently transfers heat. Class F insulation with overload protection in oil filled chamber for cool operation and long motor life.

5. 3- Bearing Support
Motor / Pump shaft securely held with upper and lower ball bearing plus addition sleeve bearing in lower seal chamber. Long 50,000 hour B-10 bearing life.

6. Double Mechanical Seal Protection
Dual silicon carbide mechanical shaft seals provide twice the moisture protection for the motor. Dual seals are housed in a secondary oil filled seal chamber. Tougher silicon carbide seals better handles sand, grit and abrasive materials.

7. Non-Overloading Hydraulic Design
The recessed centrifugal impeller allows 100% performance curve operation from shut-off to maximum flow without damage to the pump or system. The recessed vortex impeller is out of the passageway of fluid flow, eliminating concerns of blockage or wear.

8. Proven Grinder Assembly
Hardened (Rockwell 56-60) stainless steel grinder assembly has 30+ years proven field experience. The reversible grinder ring and grinder impeller effectively reduces solids into a fine slurry, easily passable in a piping system without concerns of clogging. Highly efficient 7,400 cuts per second.

9. Easy Piping Connection
Removable 1-1/4” NPT connection flange for simple and easy connection to discharge piping.

10. Accessories Included
Stainless steel lifting handle and anti-vibration rubber mounting feet are included with the pump.
### Keen Pump

**Submersible Grinder Pumps**

<table>
<thead>
<tr>
<th><strong>General</strong></th>
<th><strong>Motor Data</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Name</td>
<td>HP / Service Factor 2 HP / 1.59</td>
</tr>
<tr>
<td>Date / Curve No.</td>
<td>Start Relay Keen Model # RE-1</td>
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<tr>
<td><strong>Pump Data</strong></td>
<td>Start Capacitor 200 mfd, 125 volt</td>
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<tr>
<td>Model No.</td>
<td>KG2-115</td>
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<tr>
<td>Discharge</td>
<td>1-1/4&quot; NPT Vertical</td>
</tr>
<tr>
<td>Grinder Ring</td>
<td>8 Slots</td>
</tr>
<tr>
<td>Impeller Dia.</td>
<td>5.5&quot;</td>
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<tr>
<td>Impeller Vanes</td>
<td>12</td>
</tr>
<tr>
<td>Impeller Type</td>
<td>Recessed Vortex</td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Performance Curve</td>
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</tbody>
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#### Motor Data
- **Model No.** KG2-115
- **Discharge** 1-1/4" NPT Vertical
- **Grinder Ring** 8 Slots
- **Impeller Dia.** 5.5"
- **Impeller Vanes** 12
- **Impeller Type** Recessed Vortex

#### Performance Curves

**Performance Curve**

- **Head [ft]**
- **Capacity [USGPM]**

**Performance Curve**

- **Amps**
- **Capacity**

---

**Keen Pump**

**Submersible Grinder Pumps**

- **Model No.** KG2-115
- **Discharge** 1-1/4" NPT Vertical
- **Grinder Ring** 8 Slots
- **Impeller Dia.** 5.5"
- **Impeller Vanes** 12
- **Impeller Type** Recessed Vortex

**Performance Curves**

- **Head [ft]**
- **Capacity [USGPM]**

**Performance Curve**

- **Amps**
- **Capacity**
Performance Specifications

**Pump Model** – Pump shall be of the centrifugal type, KG2-115, 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 2 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 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 2 HP, 3450 RPM. The motor shall be for 60 Hz, 115 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 be soldered within the epoxy seal.
The KEEN PUMP KG2-21C series centrifugal grinder pumps easily handle residential, light commercial or industrial sanitary waste, reducing it to fine slurry. The KG2-21C pump is designed for use in pressure sewer applications or any piping network.

The recessed vortex impeller design of the KG2-21C grinder pump provides trouble free, non-overloading operation over the entire performance curve. The KG2-21C pump produces capacities to 43 gpm with heads to 106 feet.

The modular design provides quick access to the internal start capacitor kit. Hardened stainless steel grinder assembly and many quality features:

The KG2-21C series pump features:
- Strong, 2 HP, 208 / 230 volt motor
- Internal start component (no control box req’d)
- Potted cord cap assembly
- Dual silicon carbide shaft seals
- 3 Bearings
- Pressed in motor
Features and Benefits

1. Triple Sealed Cable Entrance
   Stainless steel strain relief cord grip with compression grommet protects outer cord jacket. Epoxy filled inner cord cap with individually soldered wires provide anti-wicking moisture protection to the motor even if power cable is cut or damaged.

2. Internal Start Kit
   Start / Run capacitor with relay securely positioned in dry compartment. Rubber compression grommet for wire leads to motor prevents oil from entering chamber. 4 bolts quickly removes cord cap for easy servicing.

3. Modular Pump Design
   Commonality of parts across the Keen product line minimizes the amount of parts required for servicing. Heavy duty ASTM A48, Class 30 cast iron components.

4. Strong Motor
   Powerful 208 / 230 volt, high torque motor for reliable pump operation. Pressed stator securely holds motor and efficiently transfers heat. Class F insulation with overload protection in oil filled chamber for cool operation and long motor life.

5. 3- Bearing Support
   Motor / Pump shaft securely held with upper and lower ball bearing plus addition sleeve bearing in lower seal chamber. Long 50,000 hour B-10 bearing life.

6. Double Mechanical Seal Protection
   Dual silicon carbide mechanical shaft seals provide twice the moisture protection for the motor. Dual seals are housed in a secondary oil filled seal chamber. Tougher silicon carbide seals better handles sand, grit and abrasive materials.

7. Non-Overloading Hydraulic Design
   The recessed centrifugal impeller allows 100% performance curve operation from shut-off to maximum flow without damage to the pump or system. The recessed vortex impeller is out of the passageway of fluid flow, eliminating concerns of blockage or wear.

8. Proven Grinder Assembly
   Hardened (Rockwell 56-60) stainless steel grinder assembly has 30+ years proven field experience. The reversible grinder ring and grinder impeller effectively reduces solids into a fine slurry, easily passable in a piping system without concerns of clogging. Highly efficient 16,600 cuts per second.

9. Easy Piping Connection
   Removable 1-1/4” NPT connection flange for simple and easy connection to discharge piping.

10. Accessories Included
    Stainless steel lifting handle and anti-vibration rubber mounting feet are included with the pump.

ISO 9001
CERTIFIED PUMP
## Keen Pump Submersible Grinder Pumps

### General

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<thead>
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<th>Project Name</th>
<th>HP / Service Factor</th>
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### Pump Data

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<th>Grinder Ring</th>
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<tr>
<td>Recessed Vortex</td>
<td>F</td>
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### Performance Curve

#### Head (FT) vs. Capacity

- Head (FT) on the Y-axis ranges from 0 to 110.
- Capacity on the X-axis ranges from 0 to 45.

#### Amps vs. Capacity

- Amps on the Y-axis ranges from 0 to 18.
- Capacity on the X-axis ranges from 0 to 48.
Keen Pump

2 HP Grinder Pumps KG2-21C

Performance Specifications

**Pump Model** – Pump shall be of the centrifugal type, KG2-21C, 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 2 HP and 3450 RPM.

**Pump Impeller** – Ductile Iron 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 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 a stainless steel 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 16,600 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 silicon / carbide. The seal face shall be lapped to a flatness of one light band. An optional electrode can 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 2 HP, 3450 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 & run capacitors, and electronic relay for operating the motor will be found in the pump. Major motor operating temperature must not exceed Class B ratings.

The stator winding shall be of the open type with Class F insulation. 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. SOW/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 shall seal the outer cable jacket and individual leads to prevent water from entering the motor housing. Individual conductor strands shall be soldered within.
The KEEN PUMP KHG2-21C series centrifugal grinder pumps easily handle residential, light commercial or industrial sanitary waste, reducing it to fine slurry. The KHG2-21C pump is designed for use in pressure sewer applications or any piping network.

The recessed vortex impeller design of the KHG2-21C grinder pump provides trouble free, non-overloading operation over the entire performance curve. The KHG2-21C pump produces capacities to 20 gpm with heads to 130 feet.

The modular design provides quick access to the internal start capacitor kit. Hardened stainless steel grinder assembly and many quality features:

The KHG2-21C series pump features:
- Strong, 2 HP, 208 / 230 volt motor
- Internal start component (no control box req’d)
- Potted cord cap assembly
- Dual silicon carbide shaft seals
- 3 Bearings
- Pressed in motor

Performance Curve
Features and Benefits

1. **Triple Sealed Cable Entrance**
   Stainless steel strain relief cord grip with compression grommet protects outer cord jacket. Epoxy filled inner cord cap with individually soldered wires provide anti-wicking moisture protection to the motor even if power cable is cut or damaged.

2. **Internal Start Kit**
   Start / Run capacitor with relay securely positioned in dry compartment. Rubber compression grommet for wire leads to motor prevents oil from entering chamber. 4 bolts quickly removes cord cap for easy servicing.

3. **Modular Pump Design**
   Commonality of parts across the Keen product line minimizes the amount of parts required for servicing. Heavy duty ASTM A48, Class 30 cast iron components.

4. **Strong Motor**
   Powerful 208 / 230 volt, high torque motor for reliable pump operation. Pressed stator securely holds motor and efficiently transfers heat. Class F insulation with overload protection in oil filled chamber for cool operation and long motor life.

5. **3- Bearing Support**
   Motor / Pump shaft securely held with upper and lower ball bearing plus addition sleeve bearing in lower seal chamber. Long 50,000 hour B-10 bearing life.

6. **Double Mechanical Seal Protection**
   Dual silicon carbide mechanical shaft seals provide twice the moisture protection for the motor. Dual seals are housed in a secondary oil filled seal chamber. Tougher silicon carbide seals better handles sand, grit and abrasive materials.

7. **Non-Overloading Hydraulic Design**
   The recessed centrifugal impeller allows 100% performance curve operation from shut-off to maximum flow without damage to the pump or system. The recessed vortex impeller is out of the passageway of fluid flow, eliminating concerns of blockage or wear.

8. **Proven Grinder Assembly**
   Hardened (Rockwell 56-60) stainless steel grinder assembly has 30+ years proven field experience. The reversible grinder ring and grinder impeller effectively reduces solids into a fine slurry, easily passable in a piping system without concerns of clogging. Highly efficient 7,400 cuts per second.

9. **Easy Piping Connection**
   Removable 1-1/4” NPT connection flange for simple and easy connection to discharge piping.

10. **Accessories Included**
    Stainless steel lifting handle and anti-vibration rubber mounting feet are included with the pump.

---

ISO 9001 CERTIFIED PUMP
# Keen Pump

## Submersible Grinder Pumps

<table>
<thead>
<tr>
<th>General</th>
<th>Motor Data</th>
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<tbody>
<tr>
<td>Project Name</td>
<td>HP / Service Factor 2 HP / 1.59</td>
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<td>Date / Curve No.</td>
<td>Start Relay Keen Model # RE-1</td>
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## Pump Data

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<th>Model No.</th>
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<tr>
<td>Discharge</td>
<td>Run Capacitor 30 mfd, 370 volt</td>
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<tr>
<td>Grinder Ring</td>
<td>Rated Power 208 / 230 volt, 1-Phase</td>
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<td>Impeller Dia.</td>
<td>Rated Current 14 / 12.8 amps</td>
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<td>Impeller Vanes</td>
<td>Starting Current 28 amps</td>
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<td>Impeller Type</td>
<td>Pole / Rate Speed 2 Pole / 3450 RPM</td>
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<td>Discharge Ring</td>
<td>Insulation Class F</td>
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</table>

## Performance Curve

![Performance Curve Graph](image)

![AMPS Graph](image)
Keen Pump

2 HP Grinder Pumps

KHG2-21C

Performance Specifications

**Pump Model** – Pump shall be of the centrifugal type, KHG2-21C, 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 2 HP and 3450 RPM.

**Pump Impeller** – Ductile iron 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 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 a stainless steel 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** – Type 21, dual mechanical seal construction mounted in tandem, shall protect the motor. Primary seal shall be silicon / carbide. Secondary seal shall be silicon / carbide. The seal face shall be lapped to a flatness of one light band. An optional electrode can 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 2 HP, 3450 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 & run capacitors, and electronic relay for operating the motor will be found in the pump. Major motor operating temperature must not exceed Class B ratings.

The stator winding shall be of the open type with Class F insulation. 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. SOW/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 shall seal the outer cable jacket and individual leads to prevent water from entering the motor housing. Individual conductor strands shall be soldered within.
The KEEN PUMP KG2-21 & 23 series centrifugal grinder pumps easily handle residential, light commercial or industrial sanitary waste, reducing it to fine slurry. The KG2-21 & 23 pump is designed for use in pressure sewer applications or any piping network.

The KG2-21 & 23 grinder pump retrofits into many existing competitor pump installations. The KG2-21 & 23 pump operates with the same control panel and installation piping / rail system.

The recessed vortex impeller design of the KG2-21 & 23 grinder pump provides trouble free, non-overloading operation over the entire performance curve. The KG2-21 & 23 pump produces capacities to 43 gpm with heads to 106 feet.

The KG2-21 & 23 series pump features:
- Interchangeable into competitor installations
- Dual mechanical seals (silicon carbide)
- Class H motor, internal overload protection
- 3 Bearing shaft support
- Internal moisture detection
- Strong, 2 HP motor
  - 208 / 230 volt, 1-phase
  - 208 / 230 / 460 volt, 3-phase

![Performance Curve](image)
Features and Benefits

1. Triple Sealed Cable Entrance
Stainless steel strain relief cord grip with compression grommet protects outer cord jacket. Epoxy filled inner cord cap with individually soldered wires provide anti-wicking moisture protection to the motor even if power cable is cut or damaged.

2. Modular Pump Design
Commonality of parts across the Keen product line minimizes the amount of parts required for servicing. Heavy duty ASTM A48, Class 30 cast iron components.

3. Strong Motor
Powerful high torque motor for reliable pump operation.
208 / 230 volt, 1-phase
208 / 230 / 460 volt, 3-phase
Pressed stator securely holds motor and efficiently transfers heat. Class F insulation with overload protection in oil filled chamber for cool operation and long motor life.

4. 3- Bearing Support
Motor / Pump shaft securely held with upper and lower ball bearing plus addition sleeve bearing in lower seal chamber. Long 50,000 hour B-10 bearing life.

5. Double Mechanical Seal Protection
Dual silicon carbide mechanical shaft seals provide twice the moisture protection for the motor. Dual seals are housed in a secondary oil filled seal chamber. Tougher silicon carbide seals better handles sand, grit and abrasive materials.

6. Moisture Detection
Seal leak probe signals alarm in control panel for scheduled maintenance.

7. Non-Overloading Hydraulic Design
The recessed centrifugal impeller allows 100% performance curve operation from shut-off to maximum flow without damage to the pump or system. The recessed vortex impeller is out of the passageway of fluid flow, eliminating concerns of blockage or wear.

8. Proven Grinder Assembly
Hardened (Rockwell 56-60) stainless steel grinder assembly has 30+ years proven field experience. The reversible grinder ring and grinder impeller effectively reduces solids into a fine slurry, easily passable in a piping system without concerns of clogging. Highly efficient 16,600 cuts per second.

9. Easy Piping Connection
Removable 1-1/4” NPT connection flange for simple and easy connection to discharge piping.

10. Accessories Included
Stainless steel lifting handle and anti-vibration rubber mounting feet are included with the pump.
### Keen Pump

#### Submersible Grinder Pumps

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#### General

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<td>18 Slots</td>
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<td>Impeller Type</td>
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#### Motor Data

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<td>Run Capacitor</td>
<td>30 mfd, 370 volt</td>
</tr>
<tr>
<td>Rated Power</td>
<td>208 / 230 volt, 1-Phase</td>
</tr>
<tr>
<td>Rated Current</td>
<td>14 / 12.8 amps</td>
</tr>
<tr>
<td>Starting Current</td>
<td>28 amps</td>
</tr>
<tr>
<td>Pole / Rate Speed</td>
<td>2 Pole / 3450 RPM</td>
</tr>
<tr>
<td>Insulation Class</td>
<td>F</td>
</tr>
</tbody>
</table>

#### Performance Curve

**HEAD (FT)**

**CAPACITY**

**AMPS**

**Capacity**

---

Keen Pump Submersible Grinder Pumps

General

Motor Data

Pump Data

Model No.

Discharge

Grinder Ring

Impeller Dia.

Impeller Vanes

Impeller Type

Performance Curve
# Keen Pump

## Submersible Grinder Pumps

### General

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Motor Data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HP / Service Factor</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date / Curve No.</th>
<th>Efficiency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</table>

### Pump Data

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Start Capacitor</th>
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<tbody>
<tr>
<td>KG2-23</td>
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<table>
<thead>
<tr>
<th>Discharge</th>
<th>Run Capacitor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1/4&quot; NPT Vertical</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Grinder Ring</th>
<th>Rated Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 Slots</td>
<td>208 / 230 / 460 Volt, 3HP</td>
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<table>
<thead>
<tr>
<th>Impeller Dia.</th>
<th>Rated Current</th>
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<tbody>
<tr>
<td>5.5&quot;</td>
<td>10 / 9 / 4.5 amps</td>
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</table>

<table>
<thead>
<tr>
<th>Impeller Vanes</th>
<th>Pole / Rate Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>2 Pole / 3450 RPM</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Impeller Type</th>
<th>Insulation Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recessed Vortex</td>
<td>F</td>
</tr>
</tbody>
</table>

### Performance Curve

![Performance Curve Graph]

![Performance Curve Graph](https://example.com/keen-pump-graph.png)

![Performance Curve Graph](https://example.com/keen-pump-graph-2.png)
Keen Pump

2 HP Grinder Pumps KG2-21 & 23

Performance Specifications

**Pump Model** – Pump shall be of the centrifugal type, KG2-21 & 23, 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 2 HP and 3450 RPM.

**Pump Impeller** – Ductile Iron 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 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 a stainless steel 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 16,600 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 silicon / carbide. The seal face shall be lapped to a flatness of one light band. 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.

**Motor** – The pump motor shall be of the submersible type, rated 2 HP, 3450 RPM. The motor shall be for 60 Hz, either 208,230, 460 volt, single or three phase operation. Single-phase motors shall be capacitor start, capacitor run type for high starting torque. Start & run capacitors, and electronic relay for operating the motor will be found in the control box. Major motor operating temperature must not exceed Class B ratings.

The stator winding shall be of the open type with Class F insulation. 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. Three phase motors contain temperature sensors with (2) wires for attachment to the control panel.

**Power Cord** – The motor power cord shall be 12 Ga. SOW/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 shall seal the outer cable jacket and individual leads to prevent water from entering the motor housing. Individual conductor strands shall be soldered within.
2 HP Dual Seal Grinder Pump
Single & Three Phase, High Head
Start Kit in Control Box

The KEEN PUMP KHG2-21 & 23 series centrifugal grinder pumps easily handle residential, light commercial or industrial sanitary waste, reducing it to fine slurry. The KHG2-21 & 23 pump is designed for pressure sewer applications or any piping network.

The KHG2-21 & 23 grinder pump retrofits into many existing competitor pump installations. The KHG2-21 & 23 pump operates with the same control panel and installation piping / rail system.

The recessed vortex impeller design of the KHG2-21 & 23 grinder pump provides trouble free, non-overloading operation over the entire performance curve. The KHG2-21 & 23 pump produces capacities to 43 gpm with heads to 106 feet.

The KHG2-21 & 23 series pump features:

- Interchangeable into competitor installations
- Dual mechanical seals (silicon carbide)
- Class H motor, internal overload protection
- 3 Bearing shaft support
- Internal moisture detection
- Strong, 2 HP motor
  - 208 / 230 volt, 1-phase
  - 208 / 230 / 460 volt, 3-phase

Performance Curve
Features and Benefits

1. **Triple Sealed Cable Entrance**
   Stainless steel strain relief cord grip with compression grommet protects outer cord jacket. Epoxy filled inner cord cap with individually soldered wires provide anti-wicking moisture protection to the motor even if power cable is cut or damaged.

2. **Modular Pump Design**
   Commonality of parts across the Keen product line minimizes the amount of parts required for servicing. Heavy duty ASTM A48, Class 30 cast iron components.

3. **Strong Motor**
   Powerful high torque motor for reliable pump operation.
   - 208 / 230 volt, 1-phase
   - 208 / 230 / 460 volt, 3-phase
   Pressed stator securely holds motor and efficiently transfers heat. Class F insulation with overload protection in oil filled chamber for cool operation and long motor life.

4. **3- Bearing Support**
   Motor / Pump shaft securely held with upper and lower ball bearing plus addition sleeve bearing in lower seal chamber. Long 50,000 hour B-10 bearing life.

5. **Double Mechanical Seal Protection**
   Dual silicon carbide mechanical shaft seals provide twice the moisture protection for the motor. Dual seals are housed in a secondary oil filled seal chamber. Tougher silicon carbide seals better handles sand, grit and abrasive materials.

6. **Moisture Detection**
   Seal leak probe signals alarm in control panel for scheduled maintenance.

7. **Non-Overloading Hydraulic Design**
   The recessed centrifugal impeller allows 100% performance curve operation from shut-off to maximum flow without damage to the pump or system. The recessed vortex impeller is out of the passageway of fluid flow, eliminating concerns of blockage or wear.

8. **Proven Grinder Assembly**
   Hardened (Rockwell 56-60) stainless steel grinder assembly has 30+ years proven field experience. The reversible grinder ring and grinder impeller effectively reduces solids into a fine slurry, easily passable in a piping system without concerns of clogging. Highly efficient 7,400 cuts per second.

9. **Easy Piping Connection**
   Removable 1-1/4” NPT connection flange for simple and easy connection to discharge piping.

10. **Accessories Included**
    Stainless steel lifting handle and anti-vibration rubber mounting feet are included with the pump.
# Keen Pump

## Submersible Grinder Pumps

<table>
<thead>
<tr>
<th><strong>General</strong></th>
<th><strong>Motor Data</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Name</td>
<td>HP / Service Factor 2 HP / 1.92</td>
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<tr>
<td>Date / Curve No.</td>
<td>Start Relay Keen Model # RE-2</td>
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<table>
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<tr>
<th><strong>Pump Data</strong></th>
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<tbody>
<tr>
<td>Model No. KHG2-21</td>
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<tr>
<td>Discharge 1-1/4&quot; NPT Vertical</td>
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<tr>
<td>Grinder Ring 8 Slots</td>
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<tr>
<td>Impeller Dia. 5.625&quot;</td>
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<tr>
<td>Impeller Vanes 12</td>
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<tr>
<td>Impeller Type Recessed Vortex</td>
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<table>
<thead>
<tr>
<th><strong>Motor Data</strong></th>
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</thead>
<tbody>
<tr>
<td>Start Capacitor 150 mfd, 250 volt</td>
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<tr>
<td>Run Capacitor 30 mfd, 370 volt</td>
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<tr>
<td>Rated Power 208 / 230 volt, 1-Phase</td>
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<tr>
<td>Rated Current 14 / 12.8 amps</td>
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<tr>
<td>Starting Current 28 amps</td>
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<td>Pole / Rate Speed 2 Pole / 3450 RPM</td>
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<tr>
<td>Insulation Class F</td>
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</table>

### Performance Curve

[Graph of Head vs. Capacity (USGPM)]

[Graph of AMPS vs. Capacity]
# Keen Pump

## Submersible Grinder Pumps

<table>
<thead>
<tr>
<th>General</th>
<th>Motor Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Name</td>
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</tr>
<tr>
<td>Date / Curve No.</td>
<td>Efficiency (%)</td>
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## Pump Data

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<tr>
<th>Description</th>
<th>Information</th>
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<tr>
<td>Model No.</td>
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<td>Discharge</td>
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</tr>
<tr>
<td>Rated Power</td>
<td>208 / 230 / 460 volt, 1-Phase</td>
</tr>
<tr>
<td>Grinder Ring</td>
<td>8 Slots</td>
</tr>
<tr>
<td>Rated Current</td>
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<tr>
<td>Impeller Dia.</td>
<td>5.625&quot;</td>
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<tr>
<td>Starting Current</td>
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<tr>
<td>Impeller Vanes</td>
<td>12</td>
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<tr>
<td>Pole / Rate Speed</td>
<td>2 Pole / 3450 RPM</td>
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<tr>
<td>Impeller Type</td>
<td>Recessed Vortex</td>
</tr>
<tr>
<td>Insulation Class</td>
<td>F</td>
</tr>
</tbody>
</table>

## Performance Curve

- **Head [ft]** vs **Capacity [USGPM]**
- **Amps** vs **Capacity**

---

Rev. 7-1-2008
Keen Pump
2 HP Grinder Pumps    KHG2-21 & 23

Performance Specification

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**Seals** – Type 21, dual mechanical seal construction mounted in tandem, shall protect the motor. Primary seal shall be silicon / carbide. Secondary seal shall be silicon / carbide. The seal face shall be lapped to a flatness of one light band. 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.

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