

KG2-115

2 HP Dual Seal Grinder Pump 115 Volt, Internal Start Kit



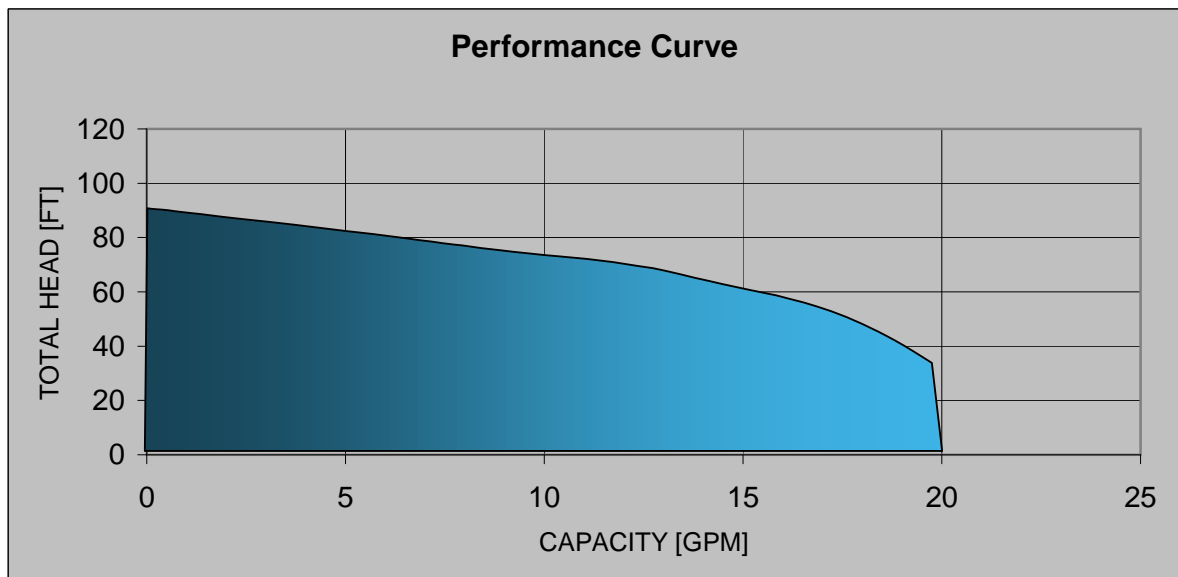
The KEEN PUMP **KG2-115** series centrifugal grinder pumps easily handle residential, light commercial or industrial sanitary waste, reducing it to fine slurry. The **KG2-115** pump is designed for use in pressure sewer applications or any piping network.

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.

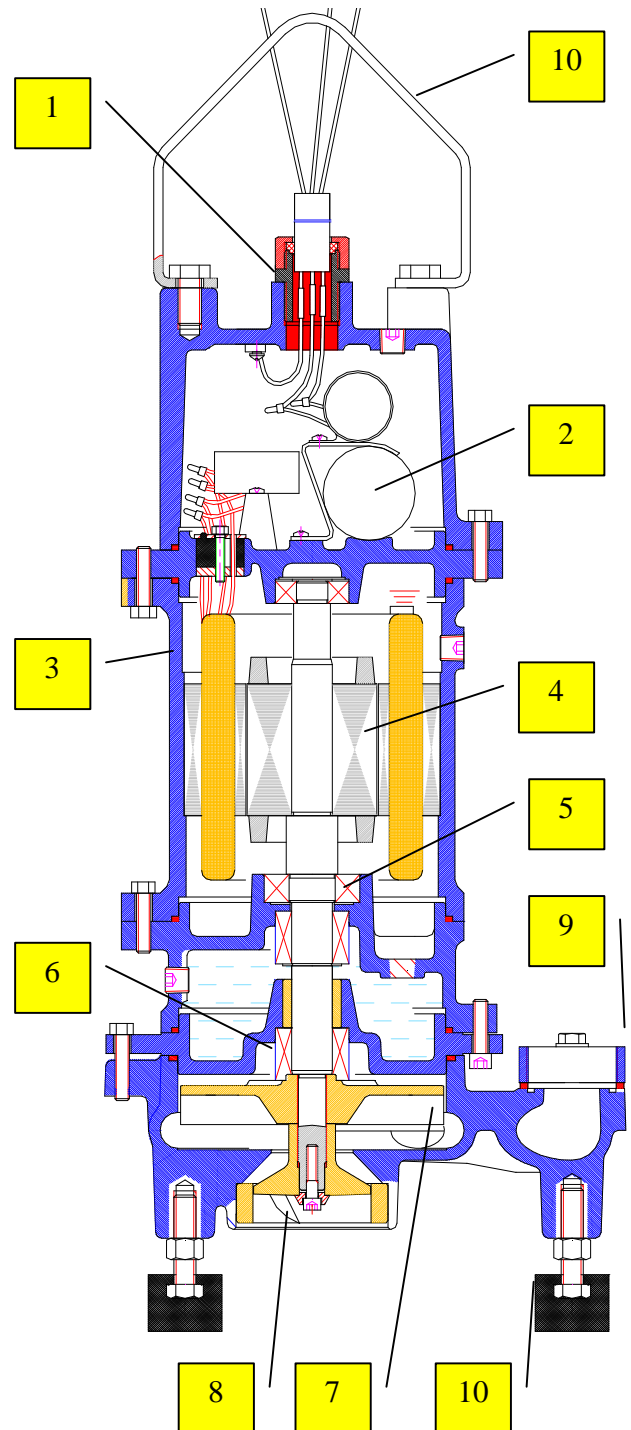
9. Easy Piping Connection

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.

2 HP Grinder Pump Dual Seal KG2-115



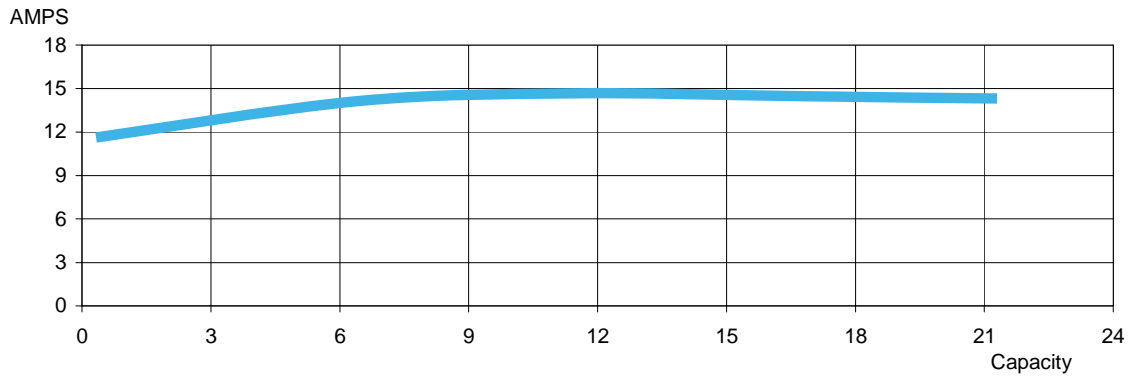
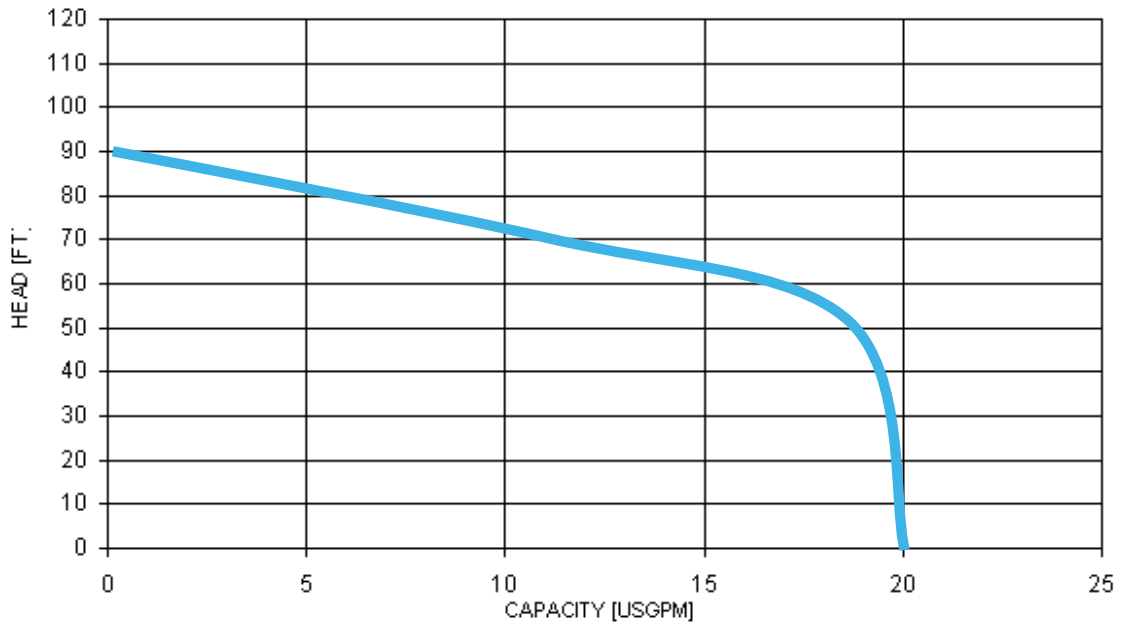
ISO 9001
CERTIFIED PUMP

Keen Pump

Submersible Grinder Pumps

General		Motor Data	
Project Name		HP / Service Factor	2 HP / 1.59
Date / Curve No.	/	Start Relay	Keen Model # RE-1
Pump Data		Start Capacitor	200 mfd, 125 volt
Model No.	KG2-115	Run Capacitor	70 mfd, 250 volt
Discharge	1-1/4" NPT Vertical	Rated Power	115 volt, 1-Phase
Grinder Ring	8 Slots	Rated Current	16.9 amps
Impeller Dia.	5.5"	Starting Current	48 amps
Impeller Vanes	12	Pole / Rate Speed	2 Pole / 3450 RPM
Impeller Type	Recessed Vortex	Insulation Class	F

Performance Curve



KEEN PUMP

2 HP Grinder Pumps

KG2-115

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.

KG2-21C

2 HP Dual Seal Grinder Pump Internal Start Components



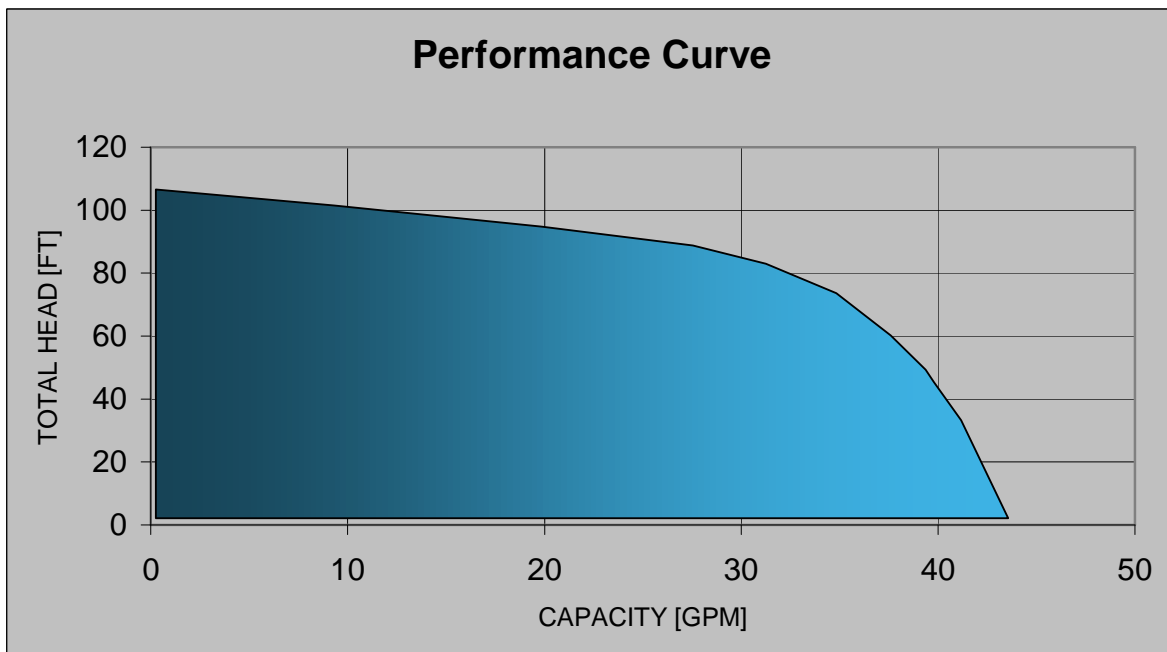
The KEEN PUMP **KG2-21C** series centrifugal grinder pumps easily handle residential, light commercial or industrial sanitary waste, reducing it to fine slurry. The **KG2-21C** pump is designed for use in pressure sewer applications or any piping network.

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.

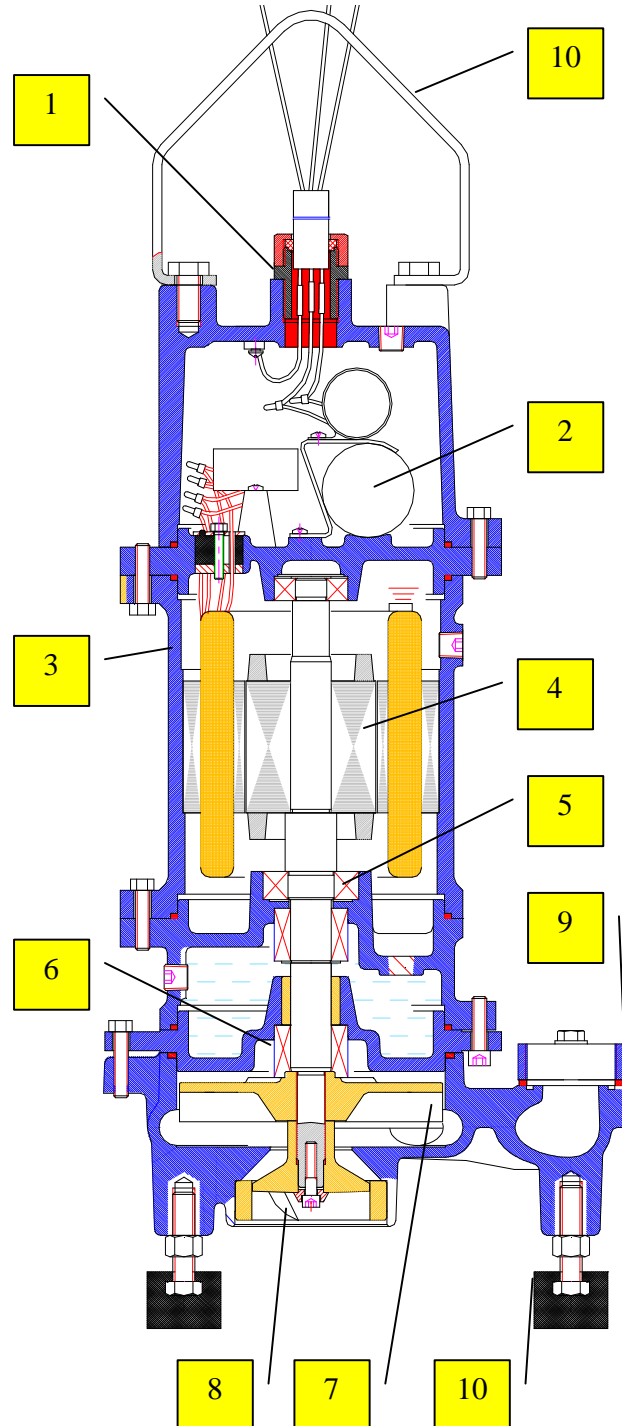
9. Easy Piping Connection

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.

2 HP Grinder Pump Dual Seal KG2-21C

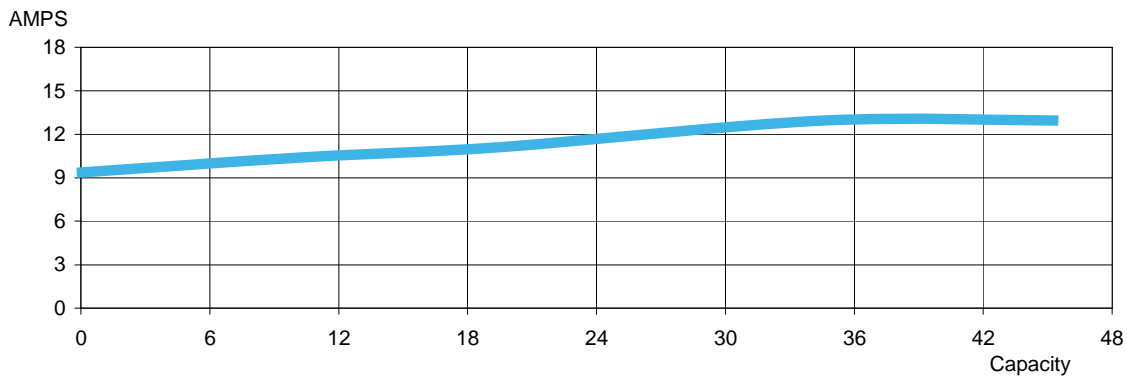
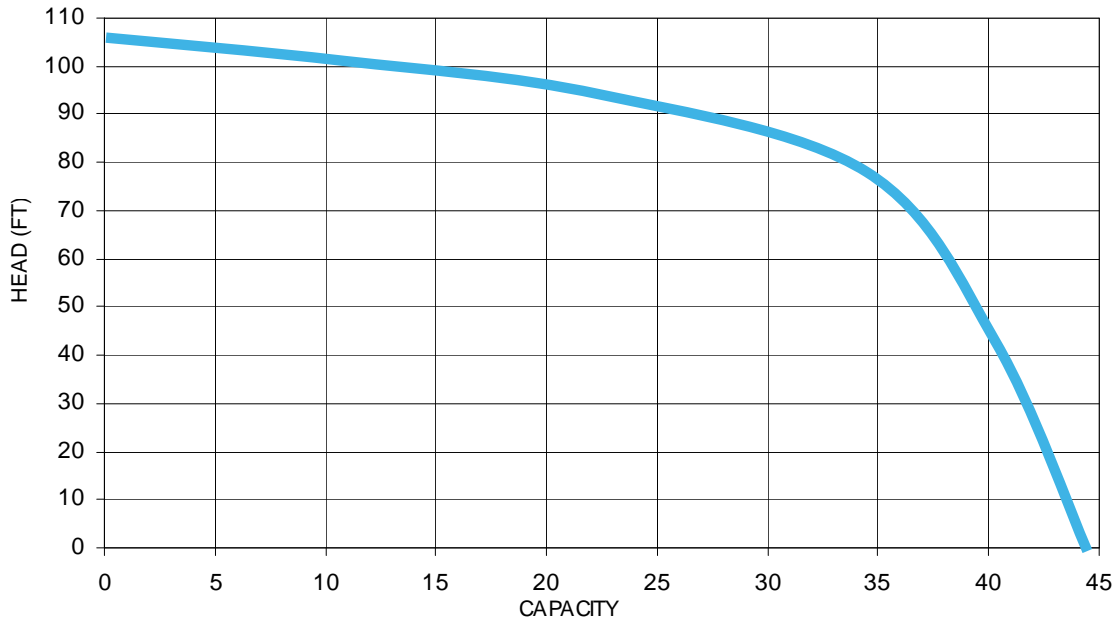


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CERTIFIED PUMP

Keen Pump

Submersible Grinder Pumps

<i>General</i>		<i>Motor Data</i>	
Project Name		HP / Service Factor	2 HP / 1.59
Date / Curve No.	/	Start Relay	Keen Model # RE-1
<i>Pump Data</i>		Start Capacitor	150 mfd, 250 volt
Model No.	KG2-21C	Run Capacitor	30 mfd, 370 volt
Discharge	1-1/4" NPT Vertical	Rated Power	208 / 230 volt, 1-Phase
Grinder Ring	18 Slots	Rated Current	14 / 12.8 amps
Impeller Dia.	5.5"	Starting Current	28 amps
Impeller Vanes	12	Pole / Rate Speed	2 Pole / 3450 RPM
Impeller Type	Recessed Vortex	Insulation Class	F
<i>Performance Curve</i>			



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.

KHG2-21C 2 HP Dual Seal Grinder Pump Internal Start Kit, High Head



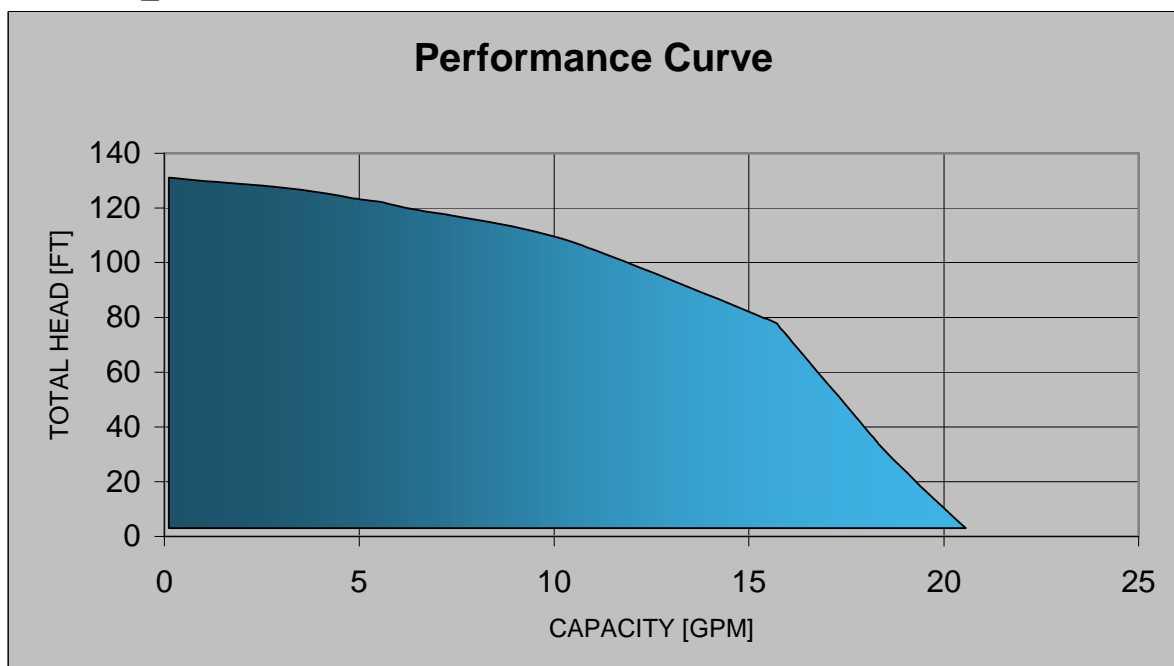
The KEEN PUMP **KHG2-21C** series centrifugal grinder pumps easily handle residential, light commercial or industrial sanitary waste, reducing it to fine slurry. The **KHG2-21C** pump is designed for use in pressure sewer applications or any piping network.

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



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.

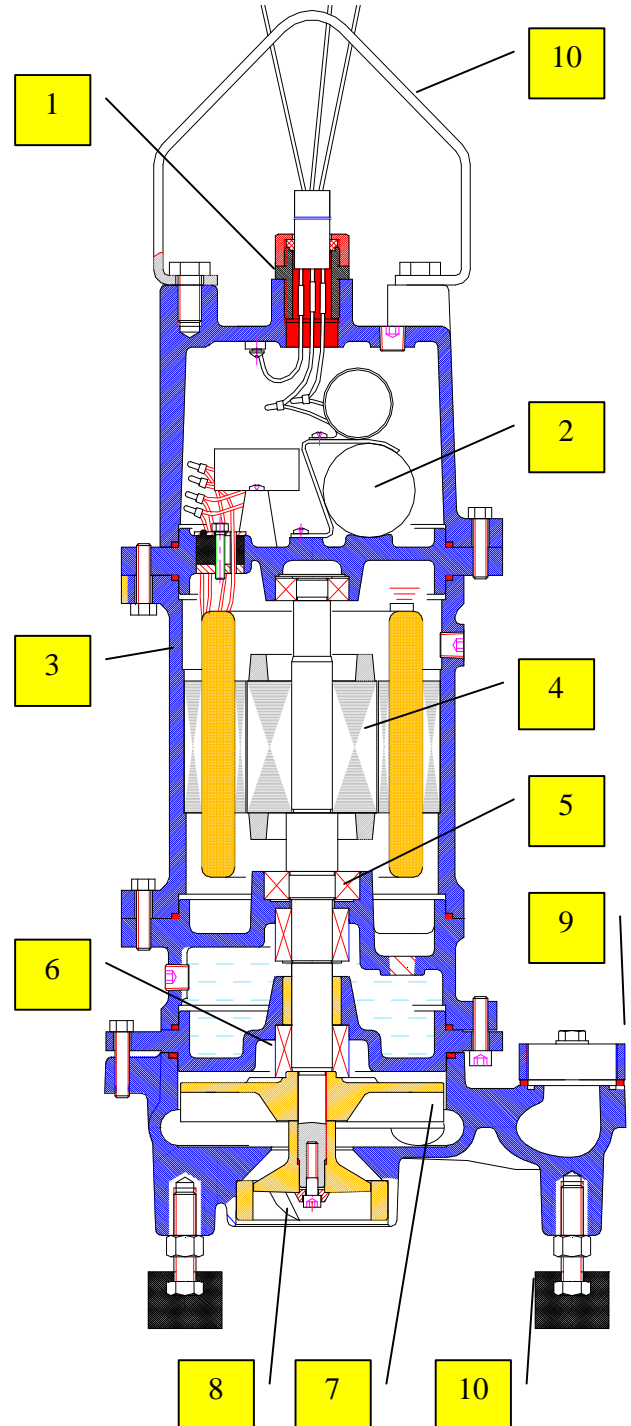
9. Easy Piping Connection

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.

2 HP Grinder Pump Dual Seal KHG2-21C

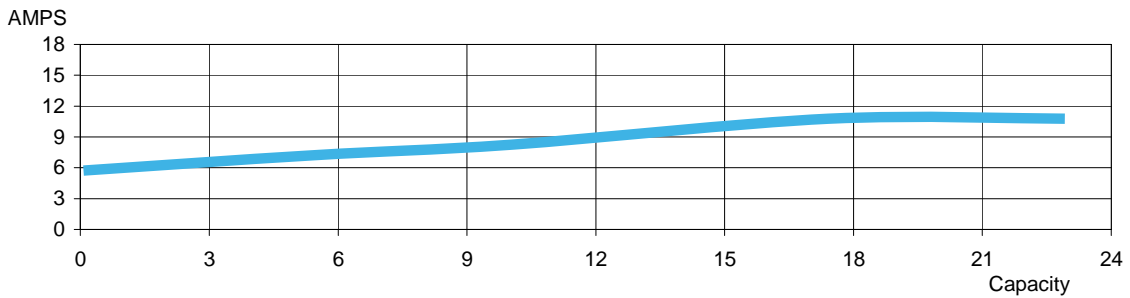
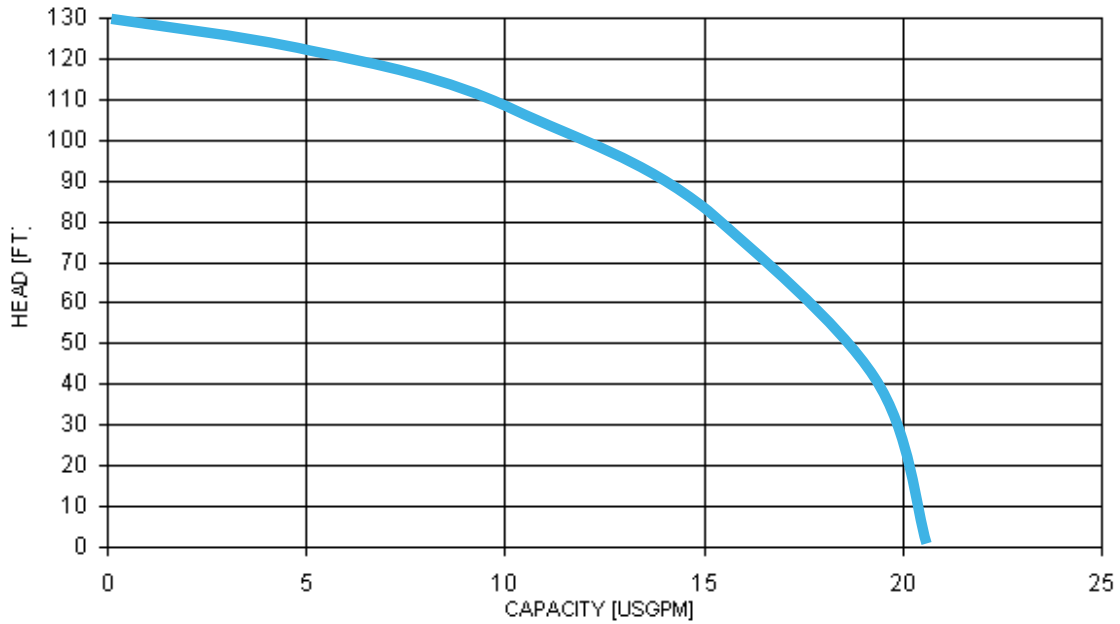


ISO 9001
CERTIFIED PUMP

Keen Pump

Submersible Grinder Pumps

General		Motor Data	
Project Name		HP / Service Factor	2 HP / 1.59
Date / Curve No.	/	Start Relay	Keen Model # RE-1
Pump Data		Start Capacitor	150 mfd, 250 volt
Model No.	KHG2-21C	Run Capacitor	30 mfd, 370 volt
Discharge	1-1/4" NPT Vertical	Rated Power	208 / 230 volt, 1-Phase
Grinder Ring	8 Slots	Rated Current	14 / 12.8 amps
Impeller Dia.	5.625"	Starting Current	28 amps
Impeller Vanes	12	Pole / Rate Speed	2 Pole / 3450 RPM
Impeller Type	Recessed Vortex	Insulation Class	F
Performance Curve			



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.

KG2-21 & 23

2 HP Dual Seal Grinder Pump Single & Three Phase Start Kit in Control Box



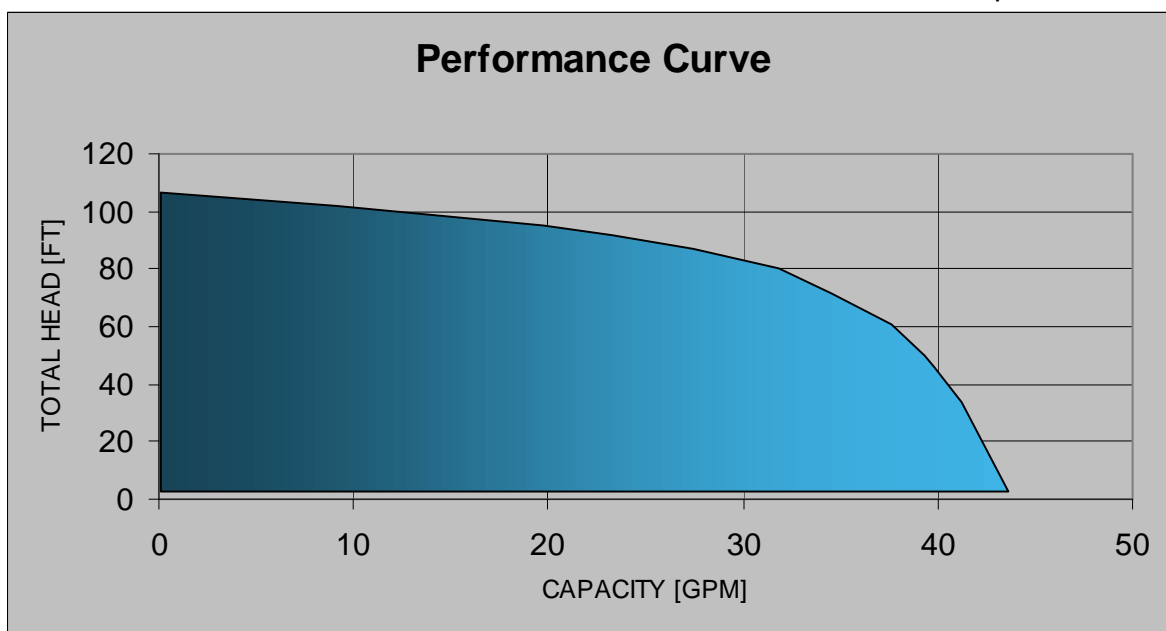
The KEEN PUMP **KG2-21 & 23** series centrifugal grinder pumps easily handle residential, light commercial or industrial sanitary waste, reducing it to fine slurry. The **KG2-21 & 23** pump is designed for use in pressure sewer applications or any piping network.

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



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.

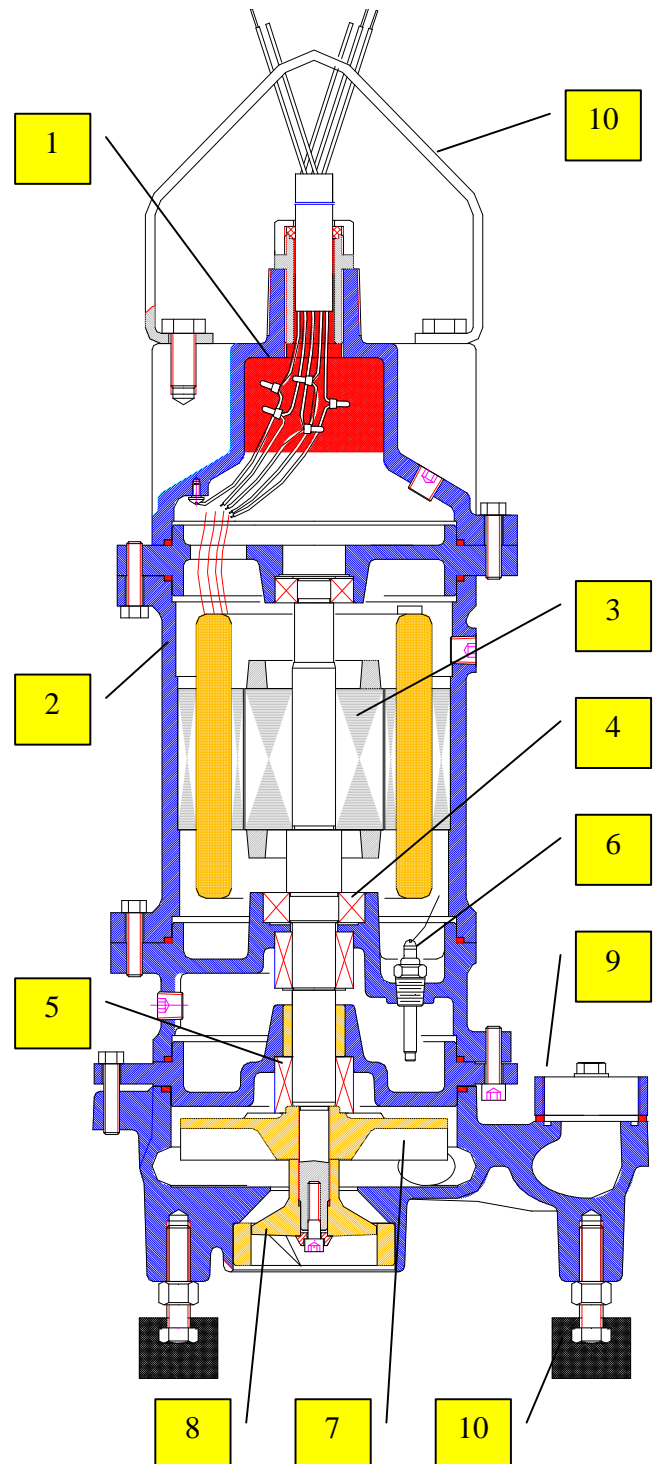
9. Easy Piping Connection

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.

2 HP Grinder Pump Dual Seal KG2-21 & 23

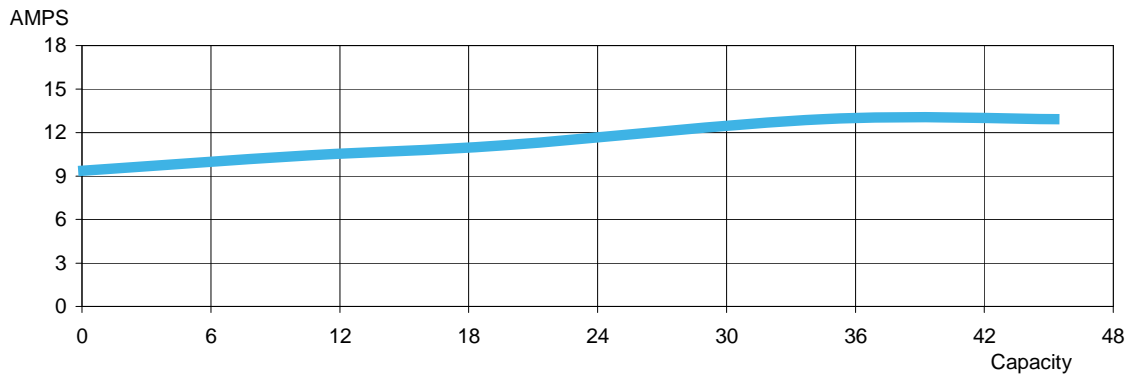
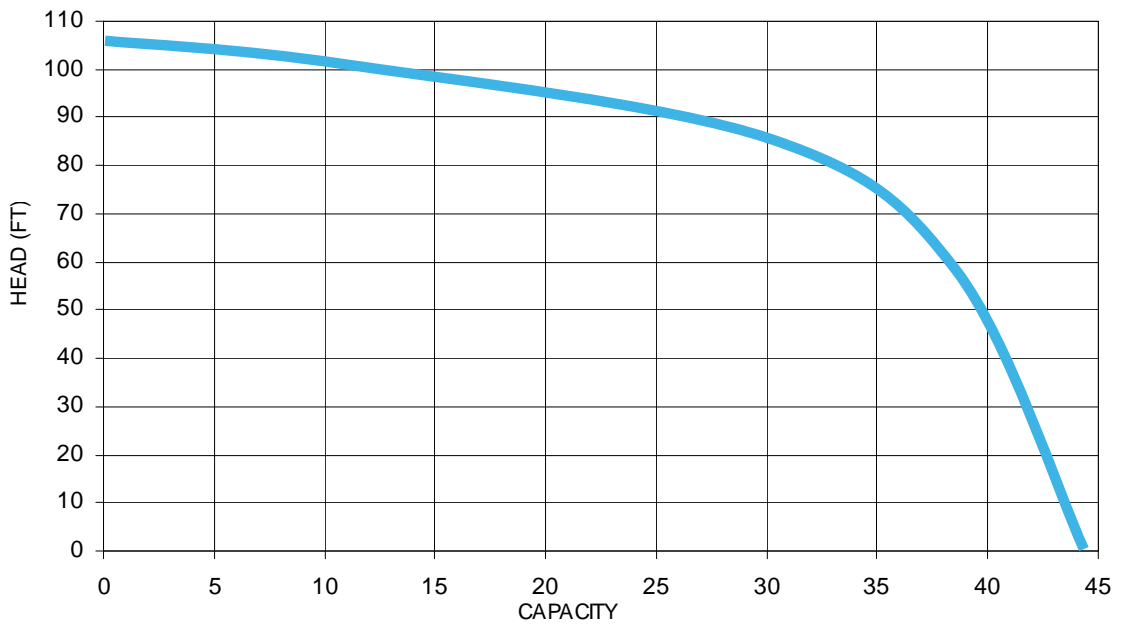


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Keen Pump

Submersible Grinder Pumps

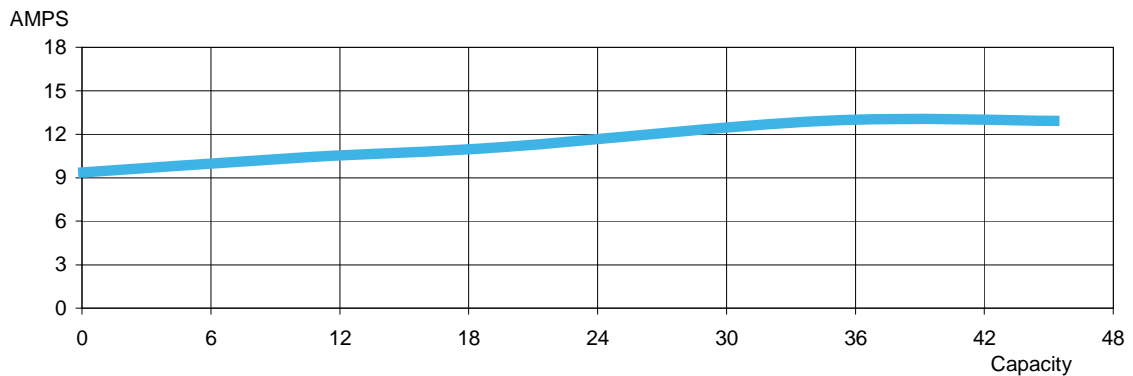
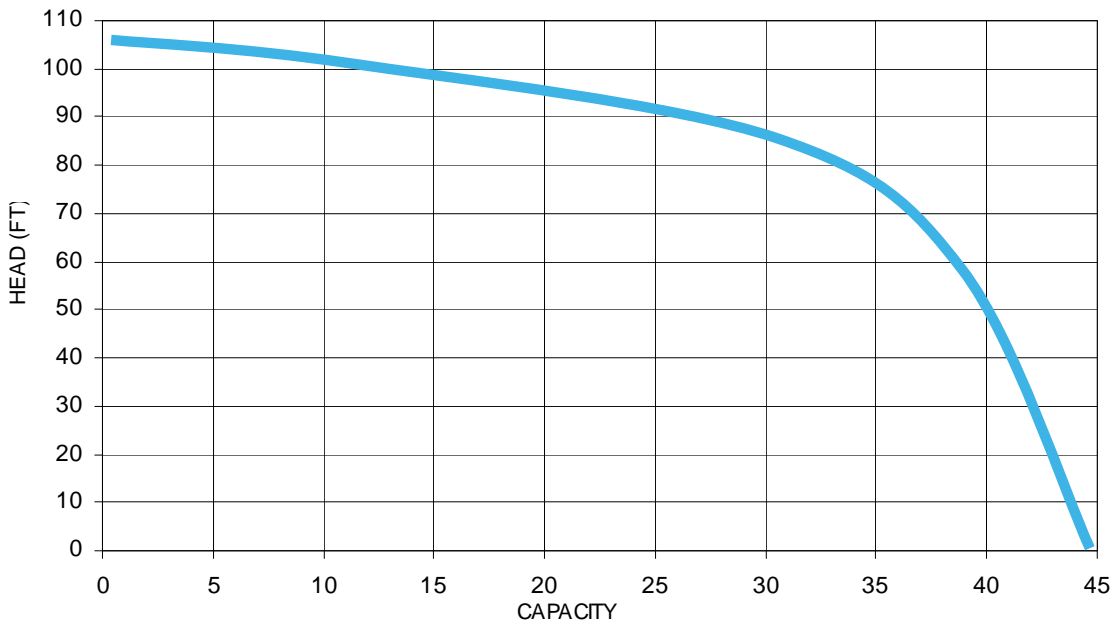
General		Motor Data	
Project Name		HP / Service Factor	2 HP / 1.92
Date / Curve No.	/	Start Relay	Keen Model # RE-2
Pump Data		Start Capacitor	150 mfd, 250 volt
Model No.	KG2-21	Run Capacitor	30 mfd, 370 volt
Discharge	1-1/4" NPT Vertical	Rated Power	208 / 230 volt, 1-Phase
Grinder Ring	18 Slots	Rated Current	14 / 12.8 amps
Impeller Dia.	5.5"	Starting Current	28 amps
Impeller Vanes	12	Pole / Rate Speed	2 Pole / 3450 RPM
Impeller Type	Recessed Vortex	Insulation Class	F
Performance Curve			



Keen Pump

Submersible Grinder Pumps

General		Motor Data	
Project Name		HP / Service Factor	2 HP / 1.92
Date / Curve No.	/	Efficiency (%)	
Pump Data		Start Capacitor	
Model No.	KG2-23	Run Capacitor	
Discharge	1-1/4" NPT Vertical	Rated Power	208 / 230 / 460 Volt, 3HP
Grinder Ring	18 Slots	Rated Current	10 / 9 / 4.5 amps
Impeller Dia.	5.5"	Starting Current	24 / 22 / 11 amps
Impeller Vanes	12	Pole / Rate Speed	2 Pole / 3450 RPM
Impeller Type	Recessed Vortex	Insulation Class	F
Performance Curve			



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.

KHG2-21 & 23 2 HP Dual Seal Grinder Pump Single & Three Phase, High Head Start Kit in Control Box



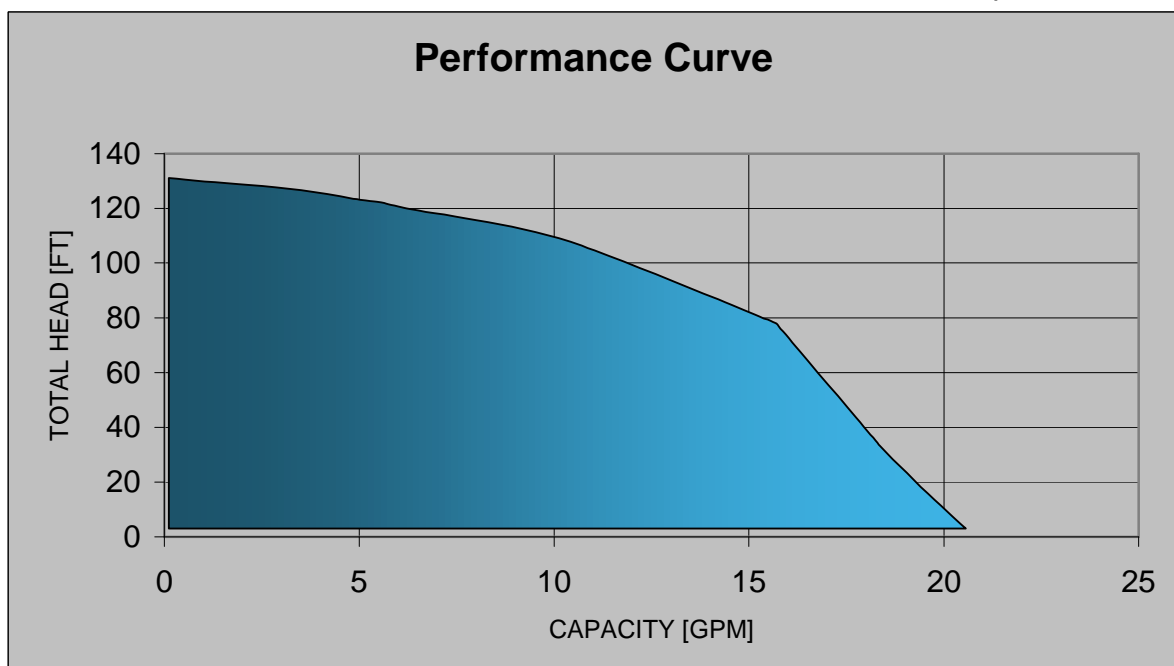
The KEEN PUMP **KHG2-21 & 23** series centrifugal grinder pumps easily handle residential, light commercial or industrial sanitary waste, reducing it to fine slurry. The **KHG2-21 & 23** pump is designed for pressure sewer applications or any piping network.

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



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.

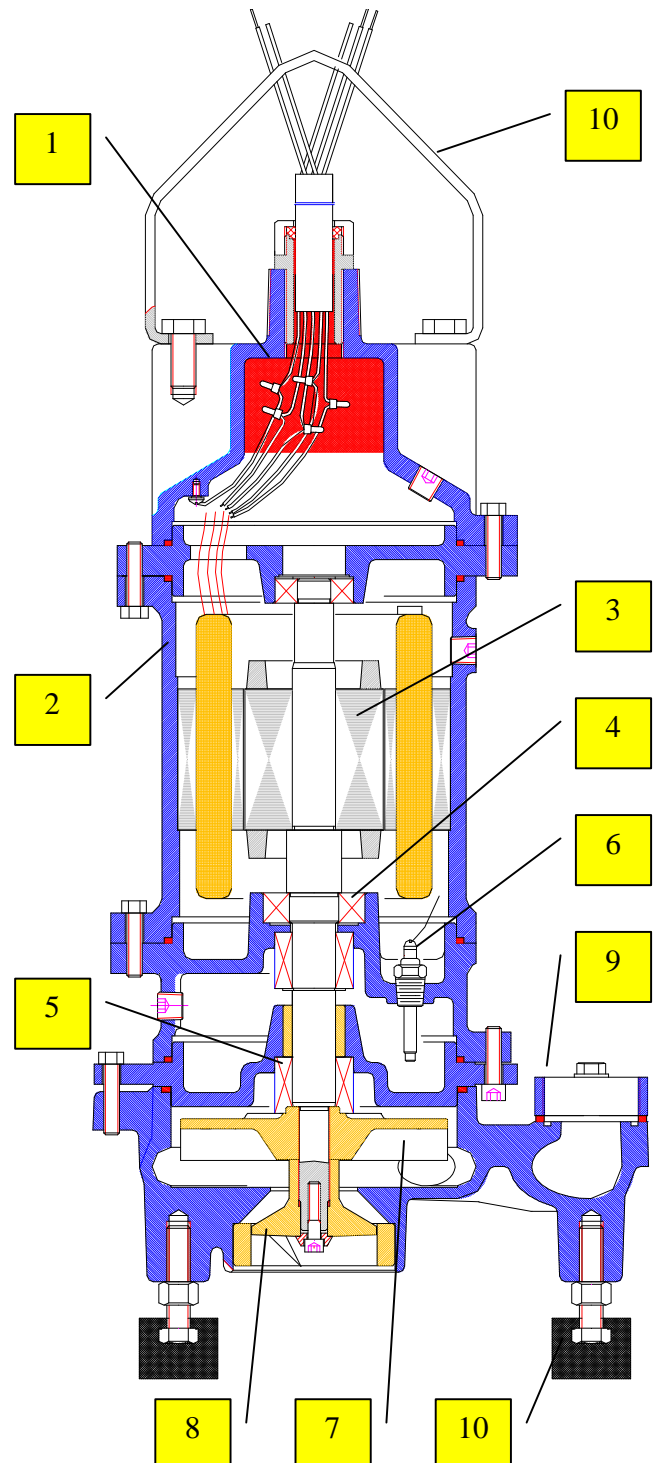
9. Easy Piping Connection

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.

2 HP Grinder Pump Dual Seal KHG2-21 & 23

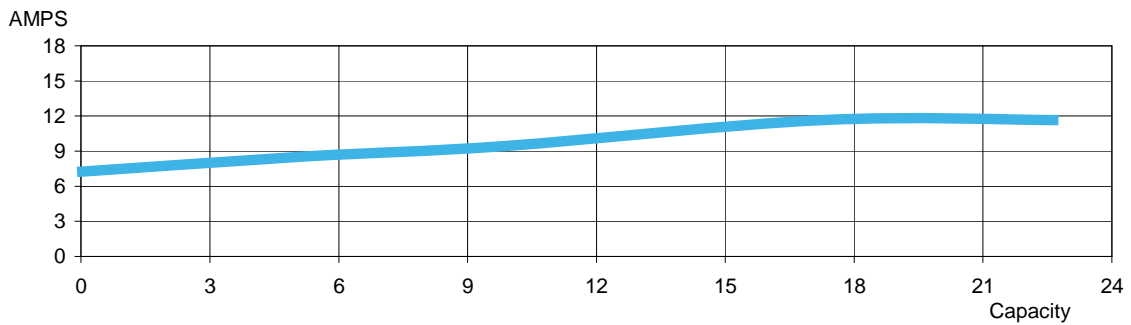
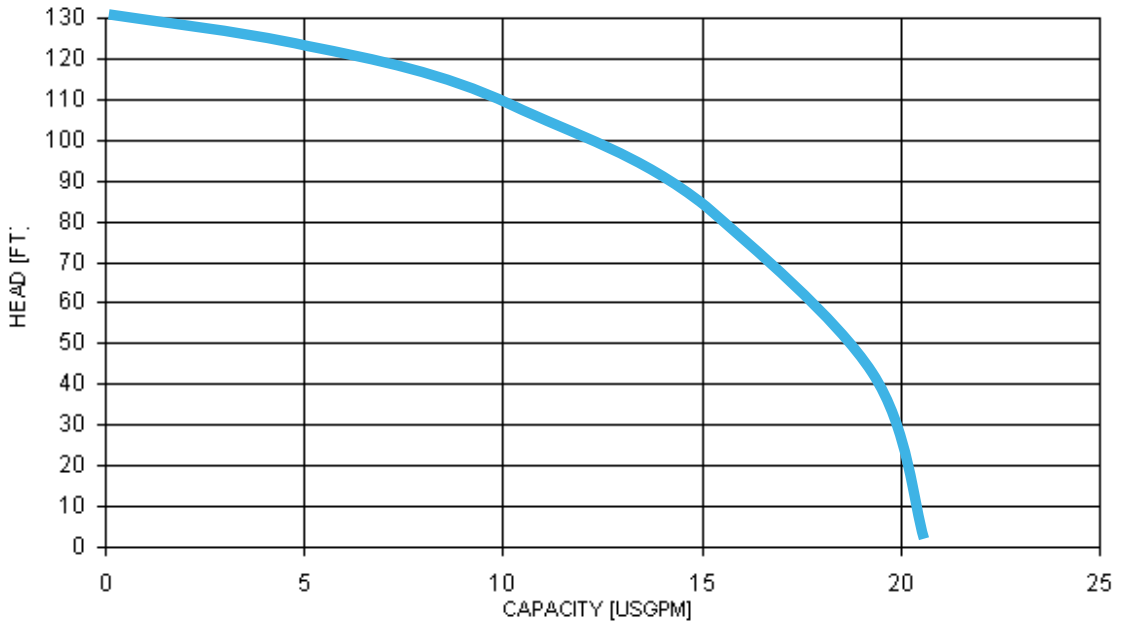


ISO 9001
CERTIFIED PUMP

Keen Pump

Submersible Grinder Pumps

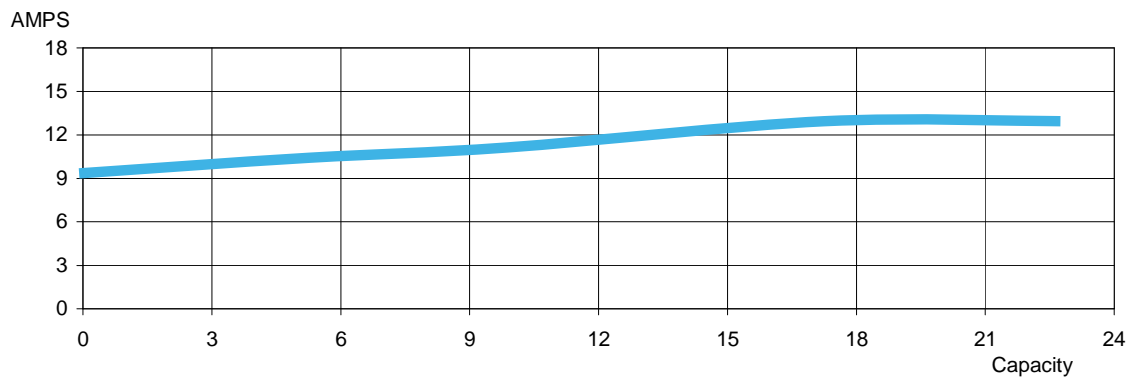
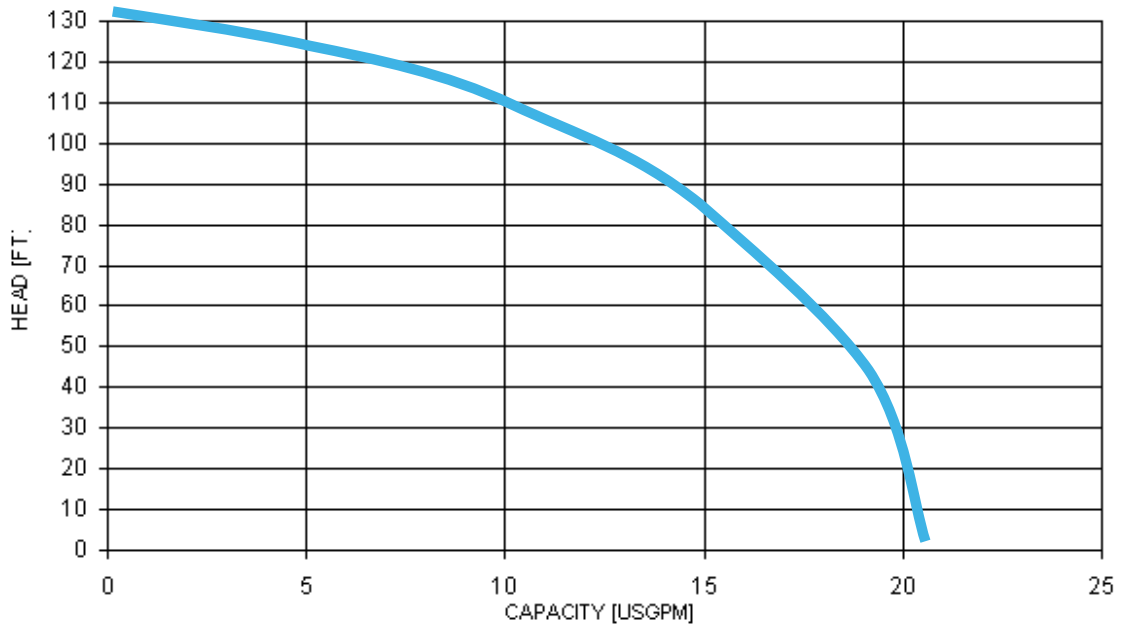
General		Motor Data	
Project Name		HP / Service Factor	2 HP / 1.92
Date / Curve No.	/	Start Relay	Keen Model # RE-2
Pump Data		Start Capacitor	150 mfd, 250 volt
Model No.	KHG2-21	Run Capacitor	30 mfd, 370 volt
Discharge	1-1/4" NPT Vertical	Rated Power	208 / 230 volt, 1-Phase
Grinder Ring	8 Slots	Rated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



Keen Pump

Submersible Grinder Pumps

General		Motor Data	
Project Name		HP / Service Factor	2 HP / 1.92
Date / Curve No.	/	Efficiency (%)	
Pump Data		Start Capacitor	
Model No.	KHG2-23	Run Capacitor	
Discharge	1-1/4" NPT Vertical	Rated Power	208 / 230 / 460 volt, 1-Phase
Grinder Ring	8 Slots	Rated Current	10 / 9 / 4.5 amps
Impeller Dia.	5.625"	Starting Current	24 / 22 / 11 amps
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Impeller Type	Recessed Vortex	Insulation Class	F
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Keen Pump

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KHG2-21 & 23

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