



# Mining & Aggregate Industry

Buyer's Guide for Submersible Pumps



**BJM**Pumps

STANCOR Pump & Control Solutions

# **Powerful Pump Solutions** for Higher Performance and Lower Costs

#### **Facing Industry Challenges**

The mining industry plays a critical role in the U.S. economy. In addition to the substantial number of jobs it supports, mining produces the raw materials essential to the functioning of many other industries including manufacturing, agriculture, and construction. The mining industry, however, is facing many challenges. Fluctuating demand, increasingly scarce resources, and stricter and more costly regulations are putting pressure on companies to better control costs and improve efficiency and performance.

#### Why Do Pumps Fail?

Achieving optimal performance in an industry filled with hazardous conditions and complex extraction and drainage activities requires the most reliable, durable, and efficient pumps available. Inferior pumps lead to pump failure, which causes costly downtime with expensive repairs and a halt to productivity.

Pump failure can result from a number of factors, but is typically attributed to these main causes:

- **Clogs.** Pumping heavy slurry with large particles, dust, dirt, and rocks will wear out regular pumps leading to an inability to pass solids and a build-up of system-clogging debris.
- **Erosion:** Gritty and abrasive materials erode cast iron and rubber-lined pumps and shorten their service lives.
- **Corrosion:** Acidic and caustic solutions quickly corrode cast iron pumps leading to premature wear and pump failures.
- **Overheating:** Pumps lacking the ability to keep internal motor functions cool will lead to overheating the system.

#### **Finding Pumps that Perform**

Selecting the right equipment is crucial for mining companies. In a market flooded with submersible dewatering and slurry pump products, it can be hard to determine the top performers. The elements to look for in a pump come down to smart design and high-quality components.

For maximum slurry handling capability, hard metal components like chrome iron agitators and semi-open impellers withstand higher concentrations of sand and other abrasive materials.

Features such as stainless steel shafts and shaft sleeves, replaceable chrome iron wear plates, and pump volutes cast from hardened ductile iron with extra thick walls will lead to better corrosion resistance and higher endurance.

Safeguards like temperature overload protection, class H motor insulation, and heavy-duty mechanical seals will help prevent overheating while built-in sensor probes can alert staff to potential problems. Some pumps feature intelligent design such as a top-discharge structure that utilizes the fluid being pumped for natural cooling of motor functions.

Mine Safety & Health Administration (MSHA) certification is intended to keep miners safe from risks, such as explosions. Industrial Flow Solutions offers a variety of submersible pumps that are MSHAapproved.

#### **Choosing Industrial Flow Solutions**

Industrial Flow Solutions has been providing innovative and effective pump solutions for more than 35 years. Through BJM Pumps and Stancor Pump & Control Solutions, we have built our reputation as an industry leader by producing the highest quality products while being responsive to our customers' needs. Our experience and expertise in challenging industries like mining and aggregates make us the ideal partner to help drive your success.



## **Dewatering, Clear Water**

**BJM Pumps:** R Series, J/JH Series **Stancor Pumps:** SSD Series, SL Series

### Dewatering, Corrosive Liquid Runoff

**BJM Pumps:** RX Series, JX/JHX Series, SKX Series, SX Series **Stancor Pumps:** SS Series, SSDS Series, CSS Series

# "Pump Up" Performance and Profits

As a critical player in the U.S. economy, mining supports a variety of industries. Pressure to keep up with competition, fluctuating demand, resource scarcity, and increased competition means finding new ways to succeed in the modern age. How do mining facilities rise above these challenges? The key to maximum performance in the harsh, demanding, and complex world of mining is having the best equipment.

Industrial Flow Solutions knows what the mining industry demands and is there to meet the challenge by delivering BJM and Stancor submersible pumps that are long-lasting. No matter the specific properties of the liquid, we have pumps made specifically to withstand the mining applications that inferior pumps can't handle. Our submersible pumps minimize costly downtime and save on repair and maintenance costs.

#### MSHA-Approved Pumps

BJM

BJM Pumps: HAZ Series Stancor Pumps: P Series (CE, CSE), SX Series



STANCO

BJM Pumps: LWA Series, KB Series, KHD/KHH Series Stancor Pumps: S Series



ZNX

BJM

### Medium, Heavy, and Severe Slurry

BJM

**BJM Pumps:** KZN Series, KZNR Series, KZN-HYD Series, KZN-HYDR Series, KZE Series, XP-KZN Series

# **KZN Pump Discharges Heavy Slurry to Keep Roads Open at Cement Plant**

#### **The Company**

At its Pennsuco operation near Miami, Titan Florida Cement and Aggregates—a unit of Titan America LLC—operates the largest cement facility in Florida and the fifth-largest quarry in the United States. Annual cement production at the Pennsuco plant exceeds 1.8 million tons, and the quarry produces more than 7.5 million impassable as rock dust, sand, gravel, grit and other debris wash across the flat terrain. Workers use heavy earthmoving equipment to plow the slop off to the side of the roads, reopening them to traffic. The highly abrasive runoff collects in a pond some 100 yards long by 40 yards wide. The pond must be pumped often to keep its level low enough to prevent the roads from flooding again. The workers also



tons of limestone products a year. The plant produces bulk and bagged cement and aggregate products that are sold to public and private construction markets.

#### The Challenge

South Florida is known for its flash rainstorms, especially in summer when a downpour is often a daily occurrence. Titan Florida Cement and Aggregates' Pennsuco facility mines, washes and sizes gravel, and produces cement. The dusty work is made more challenging during heavy rain. Roads become use water from the runoff pond to wash screens in the plant.

#### **The Solution**

For many years, the Pennsuco plant used belt-driven Gallagher/ Ash pumps to keep the runoff pond at the proper level. However, the pumps were expensive and difficult to maintain, as there were long lead times for parts. Furthermore, the parts themselves were expensive.

#### **Challenge:**

Titan Florida Cement and Aggregates plow a mixture of abrasive rock dust, sand, grit, and rain off roads where it collects in a pond. They need to pump the pond often to keep it from flooding the road.

#### Solution:

Replaced Gallagher/Ash pumps with KZN110 heavy-duty submersible slurry pump.

#### **Results:**

They added a second KZN110 pump and both pumps are running reliably for three years.

Working with Barney's Pumps in Coral Springs, Florida, plant engineers purchased a BJM Pumps KZN110 heavy-duty submersible slurry pump. The pump is especially designed for pumping heavy slurries containing lime, mill scale, coal, ash, silt, sand, or gravel. Its key components are made of high-chrome iron to resist abrasion, and the pump features an agitator that puts heavy solids into suspension so they can be pumped away with the liquid. Titan Florida Cement and Aggregates later purchased a second KZN110, and the two KZNs have been running reliably at Pennsuco for more than three years. The Gallagher/Ash pumps are now stored for backup use only.



# Slurry Pump Handles Frac Sand Reclamation Duty From Sump

#### The Company

A midwestern manufacturer produces a range of silica proppants. Proppants are solid materials, such as treated sand or ceramic particulate, that are typically used in the hydraulic fracturing process to keep an induced hydraulic fracture open for optimal oil and gas extraction.



The proppant manufacturer operates the mining facility with a closed-loop water system. This closed-loop system allows their wash plant to operate without discharging process water into dry runs, local wetlands, and nearby creeks. Instead the water and sand are collected in sumps and recirculated through a filter press to release the moisture from the sand.

This frac sand reclamation process dictated specific requirements for the sump pump. Already using a KZN submersible pump in one of their sumps, the manufacturer contacted BPH Pump & Equipment Inc. to source another KZN pump for a new sump.

#### The Challenge

1. The pump needed to be resistant to abrasion. The sump was collecting very fine sand which can wear down the internal components of submersible pumps. 2. The pump needed to reliably transport a thick slurry. A simple dewatering pump would not be reliable in this application.

3. The pump must run 24/7 continuous duty. The sump pump needs to run continuously while the filter press is operating.

#### **The Solution**

BPH Pump & Equipment Inc., recommended a BJM KZN75-460T Submersible Slurry Pump. It's been operating well for two years due to its:

#### 1. Abrasion-Resistance:

- 28% Chrome Iron Agitator to suspend sand, silt, and mud to be efficiently transported.
- High-Chrome Semi-Open Impeller to handle sand, silt, and muddy slurries with concentrations of solids as high as 50% by weight.
- Replaceable Chrome Iron Wear Plate on the suction side to counter the effects of erosion, and to provide higher endurance for abrasive applications.

#### 2. Reliable Pumping

- Superior Class H Motor Insulation Protection through double silicon carbide mechanical seals housed in a separate oil-filled seal chamber and a heavy-duty lip seal, and has built in amperage (FLA) and temperature overload protection.
- Slim, top discharge design for easy installation and motor cooling by the pumped liquid.
- Seal Minder<sup>®</sup> Moisture Detection System with a sensor probe inside the oil chamber to alert of problems.

#### **Challenge:**

A proppant manufacturer needed a pump to handle frac sand reclamation, meaning it needed to:

- Be abrasion-resistant
- Transport a thick slurry
- Run 24/7 continuous duty

#### Solution:

• BJM KZN75-460T submersible slurry pump

#### **Results:**

The KZN pumps have been running well for more than two years due to:

- Its ability to handle abrasive materials with a 28% chrome iron agitator, high chrome semi-open impeller, and replaceable chrome iron wear plate
- Its reliable pumping due to superior motor protection, slim-top discharge design, and Seal Minder<sup>™</sup> Moisture Detection System
- Its ability to run 24/7

#### 3. 24/7 Continuous Duty

Able to handle abrasive slurries with a stainless steel shaft and shaft sleeve to reduce wear. The pump has hardened ductile iron volutes, which at 300 Brinell hardness, are twice as resistant to abrasives as standard ductile iron and added durability.



# KZNR Severe Duty Slurry Pump Lasts Twice as Long as Sewage-Style Dewatering Pump in Illinois Coal Mine

#### **The Company**

The company operates nine coalmining facilities, including surface and underground mines, in southern Illinois.



#### The Challenge

Water is a constant presence in and around a coal mine: sprayed water suppresses

explosive coal dust, water seeps into mine tunnels, rain percolates through stockpiles of newly mined coal, and trucks must be washed before they can be driven on highways. This means that submersible pumps are needed in many locations: within the mine to clear tunnels of accumulated spray water and seepage, in runoff ponds or reclaim tunnels that run under outdoor coal stockpiles, in sumps that collect material that falls off and is washed away from conveyor belts, and in truck-wash sumps.

In most every case, the pumps are required to handle muddy. acidic slurry of water, chunks of coal and coal fines, dust, dirt and rocks. The debris is heavy to pump and quickly wears out standard submersible dewatering pumps. Large pieces of material that fall out of solution usually collect at the intake and will clog or destroy an inferior pump. Coal fines are extremely abrasive to the internal components of a pump and dramatically shorten the life of a traditional pump when used in such harsh conditions.

Coal extractors, processors, transporters and electricity generators have typically used submersible pumps built for sewage to manage water in their operations, usually with poor results. Additionally, the failure rate of these pumps in the coal industry's tough conditions has been consistently high, requiring frequent repair, rebuilding and replacement of pumps; unacceptable rates of downtime; high labor costs; unsafe working conditions and risks of regulatory noncompliance or environmentally destructive spills.

An Illinois coal-mining company was using a sewage-style submersible dewatering pump at the bottom of a 3,000-gallon runoff pond that collects thick slurry draining from several raw and clean coal piles.

#### **Challenge:**

An Illinois coal mine's sewagestyle submersible dewatering pump only lasted six months due to the abrasive, acidic water.

#### Solution:

Replaced current pump with BJM KZNR150 Severe Duty Slurry Pump.

#### **Result:**

The KZNR150 is pumping roughly 500 gallons per minute, eight hours a day and lasted twice as long as the previous pump.

The water in the pond is so abrasive and acidic that the company was getting no more than six months of use out of each sewage-style pump.

#### **The Solution**

The mine replaced its submersible pump with a BJM 20-horsepower KZNR150 Severe Duty Slurry Pump. It features hardened ductile iron volutes cast with extra thick walls where pumped slurry enters the discharge. Capable of handling more than 1,100 gallons per minute, the KZNR150 is pumping roughly 500 gallons per minute, eight hours a day. It has lasted twice as long as their predecessors with benefits in cost savings, uptime and reduced threats of a spill. Because the pumping componentsthe agitator, impeller and wear plate—are constructed with abrasive-resistant, highchrome iron, the pump has been a workhorse at the Illinois mine. BJM

# Sand Fine Reclamation Becomes Cost Effective With BJM Submersible Agitator Pumps

#### **The Company**

A sand and gravel wash plant was trying to find a more economical way to recover the sand fines that had previously been lost in the process of cleaning aggregate. Sand fines, which are essentially granular sedimentary particulate, are typically required for the mixing of a high-grade concrete commonly used in oilfield set up the sand fine reclamation process to send the sand slurry, via gravity, directly to the selfpriming centrifugal pump from the aggregate shaker and wash unit. The self-priming centrifugal pump then transferred the fine clay and sand slurry to another process stage to recover the sand fines, rather than sending the material to a settling pond.

#### **The Solution**

The IESS support specialist recommended the following changes:

- Allow gravity to pull the sand slurry from the aggregate shaker and wash screen into a 300-gallon container.
- Place a BJM Model LWAE15 submersible dewatering pump inside the 300-gallon container to transfer the slurry to a sandrecovery unit.

The LWA Series is constructed for dewatering sand, silt, coal fines, and abrasive light slurries. The pumps have a chrome iron impeller and wear plate. Chrome iron counters the effects of erosion and provides higher endurance for abrasive applications.

The LWA Series Submersible Dewatering Pump has a hardened ductile iron volute and agitator. The built-in agitator is perfect for stirring up the fine sand particulate with the wash water so the slurry can be efficiently transported while also maintaining the required container (or basin) volume.

#### **Challenge:**

A sand and gravel wash plant's self-priming pump only lasted 245 hours due to the high abrasiveness of the process slurry.

#### Solution:

Replaced current pump with the LWAE15 Submersible Dewatering Pump.

#### **Result:**

The LWAE15 reliably pumped the sand slurry for 800 hours before having to be rebuilt.

The LWAE15 transfers the slurry to a sand-recovery unit, delivering approximately 120 GPM (gallons per minute) at 25 TDH (Total Dynamic Head). The in-flow from the aggregate shaker and wash screen is manually regulated, staving between 80 - 100 GPM. For cooling purposes, the LWA Submersible Dewatering Pump must be fully submerged at all times. Therefore, the process slurry being discharged from the LWAE15 is also manually regulated so that a specific amount can be bypassed back into the 300-gallon container to maintain pump submersion.

The LWAE15 reliably pumped the sand slurry for 800 hours (about 4 months) before having to be pulled and rebuilt. The pump-related cost of sand fine recovery is now \$1.06 per hour of operation as compared to the \$11.43 per hour cost when using the self-priming centrifugal pumps.





applications. The sand and gravel wash plant initially tried using a 2-inch self-priming centrifugal pump from a well-known manufacturer. But, due to the high abrasiveness of the process slurry, the pump failed after only 245 hours of operation. The wash plant reached out to Industrial Equipment Sales & Service (IESS) for a more cost effective solution.

#### The Challenge

The sand and gravel wash plant operates about 6 to 7 months each year. Their system runs an average of 10 hours per day, five days each week. They had initially

# Handle the Most Difficult Mining Pumping Applications.

Submersible pumps are crucial to the mining and metals industry. They perform tasks that maintain operations to avoid downtime and to keep the miners safe. As such, mining, metals and aggregates companies need pumps that are durable enough to handle large, abrasive solids without clogging or failing. This includes rock slurries that many pumps are unable to handle. Our pumps can stand up to these applications from dewatering pumps to keep your mines dry or prevent flooding to heavy duty slurry pumps that can handle chunks of rock, coal, dirt and more.

# **Clear Water Dewatering Pumps**

# **BJM Pumps R Series**

Perfect for general dewatering in a variety of applications, the R Series pumps are lightweight and compact for excellent performance and quality.

- Top discharge for better motor cooling and slim line design
- 304 stainless steel motor housing offers lighter weight and corrosion resistance
- High temperature automatic overload switch protects against motor failure due to overheating
- Cast iron construction stands up to rough handling

### **BJM Pumps J/JH Series**

Top performance and high quality for a very modest investment. Designed for long life and trouble-free performance. High flow or high head versions available.

- Advanced double mechanical seal design with separate lip seal to protect against leaks
- Seal Minder<sup>®</sup> moisture detection system (optional) offers early warning of water in the oil chamber prior to entering the motor
- High temperature automatic overload switch protects against motor failure due to overheating
- 304 stainless steel motor housing offers lighter weight and corrosion resistance



### **Stancor SSD Series**

These pumps are perfect for unique challenges in industrial and contaminated waste pumping application.

- 304 stainless steel outing casing provides extra corrosion protection in challenging environments
- Abrasion-resistant, Hytrel resin semi-open impeller
- Double mechanical sealing system for leak protection
- Auto reset thermal protector to prevent overheating
- Oil-free motor

### **Stancor SL Series**

Low suction pump designed for the rigorous continuous-duty handling of residual water.

- Abrasive-resistant, Hytrel-resin semi-open impeller
- Double mechanical sealing system for leak protection
- Auto reset thermal protector to prevent overheating
- Oil-free motor
- Low pump suction to remove water to 1/8th of an inch



#### PUMPS

# **Corrosive Liquid Runoff Dewatering Pumps**

BJM

# **BJM Pumps RX Series**

Top discharge to pass the liquid up and around the motor before discharging. This helps to better cool the motor in low level liquid applications. Corrosive protection from 316 stainless steel on all wet and liquid exposed surfaces.

- Motor is protected by double mechanical seals
- Winding protection and (NEMA) Class F motor insulation allows motor temperature to raise to 230°F
- Automatic switch turns pump motor off if temperature and/or amp draw rises too high

# **BJM Pumps SX Series**

With non-clog reliability, the SX Series pumps provide high volume and lift for wastewater. Corrosive protection from 316 stainless steel on all wet and liquid exposed surfaces.

- Non-clog impellers to pass solids through to downstream processing
- Custom engineered double mechanical sealing system
- Two impeller trims available for each model to expand hydraulic coverage

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would clog an ordinary pump. Cast 316 stainless steel construction is ideal for corrosive environments that have solid wastes that may need to be shredded or cut.

- Delivers high volume of liquid through 2" 6" pipe
- Tears through tough waste with 360° shredding
- Grabs debris with engineered cutting slots on suction plate

BJM Pumps JX/JXH Series

Our 316 stainless steel pumps offer maximum corrosion resistance to minimize repair and replacement costs. Avoid environmental penalties that result from failed corroded cast iron pumps. High flow or high head versions available.

- Motor is protected by double mechanical seals
- Winding protection and (NEMA) Class F motor insulation allows motor temperature to raise to 230°F
- Automatic switch turns pump motor off if temperature and/or amp draw rises too high







# **Corrosive Liquid Runoff Dewatering Pumps**

# **Stancor SS Series**

316 stainless steel components manage corrosive contaminants to minimize repair and replacement costs. Available in freestanding or guide rail configurations.

- 316 stainless steel construction to resist corrosion
- Non-clogging vortex impeller to keep liquid moving
- Double mechanical sealing system for leak protection
- Solids handling up to 1.77" (45 mm)
- Built-in auto float available in single-phase models
- FKM Elastomers



## **Stancor SSDS Series**

All 304 stainless steel construction provides extra protection in challenging environments.

- 304 stainless steel construction for corrosion resistance
- Double mechanical sealing system for leak protection
- Auto reset thermal protector to prevent overheating
- Built-in auto float available in select single phase models



# **Stancor CSS Series**

Stainless steel construction provides protection against corrosion. Designed to efficiently manage large solids (trash) while pumping liquids to prevent clogs and pump failure. Available with MSHA certification.

- Stainless steel impeller, discharge and inlet screen
- Heavy cast stainless steel pump body
- Semi-recessed vortex impeller to handle stringy material
- Compact width for tight spaces



# **Light Slurry Pumps**

### **BJM Pumps LWA Series**

Tough and durable, the LWA Series pumps are constructed for dewatering sand, silt, coal fines and abrasive light slurries. These economical hard metal pumps are built to keep your production running to save repair costs.

- High chrome iron impeller and wear plate
- Hardened ductile iron volute and agitator
- Built-in agitator keeps solids from settling at the bottom to prevent clogging



### **BJM Pumps KB Series**

Able to handle tough silt, sand or coal fines, these pumps are a great solution for mining applications. Top discharge design allows pumping down lower than 11" and provides better durability and portability.

- Abrasive resistant hi-chrome iron impeller, wear plate, and agitator suitable for light slurry dewatering
- Hard metal agitator design to remove settled solids
- · 2-pole motor designs for higher head hydraulics
- Class H motor insulation with amperage (FLA) and temperature overload protection
- Oil-lubricated, double mechanical seals and heavy duty lip seal for additional protection



### **BJM Pumps KHD/KHH Series**

Removing ground water from a deep excavation requires a high head submersible pump. BJM Pumps' high head dewatering line of pumps helps you reach the heights you need while handling liquids with abrasive solids.

- The KHD series are single stage impeller pumps, while the KHH series are dual stage pumps
- High chrome iron impeller and ductile iron wear
  plate and pump volute
- Oil-lubricated, double mechanical seal design featuring early warning seal failure protection circuit to ensure the longest pump and motor life
- Solids handling capabilities up to 1/4"
- Superior motor life with Class F Motor Insulation



### **Stancor S Series**

Maximum efficiency pumps, as defined by GPM and HP, that offer a strong ROI in any application.

- Heavy duty, cast aluminum motor housing
- Stainless steel handle and discharge connection
- Impeller made from 316 stainless steel to withstand corrosive materials
- Wear-resistant, nitrile rubber/wear plates
- High chrome impeller and lower seal housing and polyurethane diffusors available to combat abrasive materials and extend service life



# Medium, Heavy and Severe Slurry

# **BJM Pumps KZN Series:**

Hard metal components make the KZN pumps the right pump for the most difficult mining slurries you deal with every day. The top discharge design allows the KZN pumps to remove liquids to within inches of the bottom.

- 28% chrome iron agitator, wear plate and impeller for unsurpassed abrasion resistance
- Hardened ductile iron volute for twice the abrasion resistance of standard ductile iron
- Superior protection with Class H motor insulation with FLA and temperature overload protection
- Top discharge, slim line design for additional motor cooling

# **BJM Pumps KZE Series:**

These high capacity, hard metal slurry pumps with agitator are the choice for the most difficult mining pumping applications to keep your production running.

- High chrome iron wear parts (volute, impeller, wear plate)
- High chrome iron agitator keeps solids from settling at the bottom to prevent clogging
- Semi-open impeller capable of passing 1" solids to accommodate heavy slurry loading



ZNATRA

BJM

BJM

# **BJM Pumps XP-KZN Series:**

The explosion proof XP-KZN pumps are hard metal agitator pumps designed for operation in Class I, Division 1, Groups C & D hazardous environments (temp. code T3C).

- FM-approved explosion proof motor meets NFPA (70), NEC and OSHA requirements for Class I, Division 1, Group C & D hazardous locations
- All the hard metal features of the KZN Series pumps
- Top discharge, slim line design for additional motor cooling

# **BJM Pumps KZNR Series:**

Some slurry solids are so abrasive that pump service life depends on an extremely hardened casting. BJM Pumps' KZNR Series pumps offer this level of casting through a proprietary process to stand up to extreme abrasiveness.

- Hardened ductile iron volute up to 71 Rockwell C (compared to Class 30 for the KZN pumps)
- Severe duty submersible slurry pumps that are unmatched in the industry



# BJM Pumps KZN-HYD/ KZN-HYDR Series:

Our KZN-HYD Series pumps are the hydraulic version of our popular KZN Series slurry pumps. Used where electric power is not available or for variable speed needs, the pumps are ideal for difficult applications.

- · Intrinsically safe in hazardous environments
- Speed can be varied for higher heads and flows or lowered to snore
- Ability to run dry without overheating the motor and to stall without damaging the pump
- Hydraulic version of our KZNR severe duty pump is also available



# **MSHA-Approved**

### **BJM Pumps HAZ Series**

BJM Pumps' HAZ Series pumps are the first permissible slurry pumps with an agitator. They are designed and constructed for abrasive coal slurries.

- High-chrome iron impeller, wear plate and agitator
- Built-in agitator keeps solids from settling at the bottom to prevent clogging
- Hardened ductile iron volute
- Class H motor insulation with amperage and temperature overload protection
- Available as MSHA Part 7 (pump only) or MSHA Part 18 (pump with controls)



# **Stancor P-CE, SX Series**

Maximum efficiency pumps, as defined by GPM and HP, that offer a strong ROI in any application.

- Heavy duty, cast aluminum motor housing
- Stainless steel handle and discharge connection
- Impeller made from 316 stainless steel to withstand corrosive materials
- Wear-resistant, nitrile rubber/wear plates
- High chrome impeller and polyurethane diffusors available to extend service life



# Stancor CS(E), TS4P Series

Designed to efficiently manage large solids (trash) while pumping liquids to prevent clogs and pump failure.

- Stainless steel impeller, discharge and inlet screen
- Heavy cast iron pump body
- Solids handling up to 3" (50 mm)
- Semi-recessed vortex impeller to handle stringy material
- Compact width for tight spaces
- High chrome impeller available to extend service life





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