



CORNELL PUMP COMPANY

# MP SERIES

MINING PUMPS DESIGNED FOR COARSE ABRASIVES



EFFICIENT BY DESIGN



# MP SERIES MINING

## MP SERIES MINING PUMPS DESIGNED FOR COARSE ABRASIVES

Cornell Pump Company's **MP Mining Pump Series** combines 65 years of innovative pump manufacturing and design, with our highly-regarded, patented **Cycloseal®** technology. Offering high-operating pressures, the **MP pumps** are specifically designed for coarse abrasive slurry applications such as sand, gravel, coal, manure, and mine dewatering.

### SPECIFICATIONS:

- Discharge sizes: 4", 6", and 8"
- Flow rates: Up to 9,000 GPM
- Heads: Up to 550'
- Solids diameter: Up to 3"
- Seal type: Cycloseal®
- Impeller type: Enclosed
- Run-Dry™ and Redi-Prime® compatible
- Available in horizontal frame and SAE mount configurations

### FEATURES:

- High strength steel shaft
- Heavy-duty construction for aggressive applications
- High-chrome white iron pump-end construction
- Thick cross-sections for abrasive wear and high operating pressures
- Front adjustable wear plate to regain lost efficiency while in service
- Replaceable suction liner and wear plates at point of maximum wear
- Hardness rating > 650BHN provides better wear properties compared to standard cast or ductile iron
- Heavy duty bearing frame construction with double angular contact thrust bearing. Oil or grease lubricated

### BENEFITS:

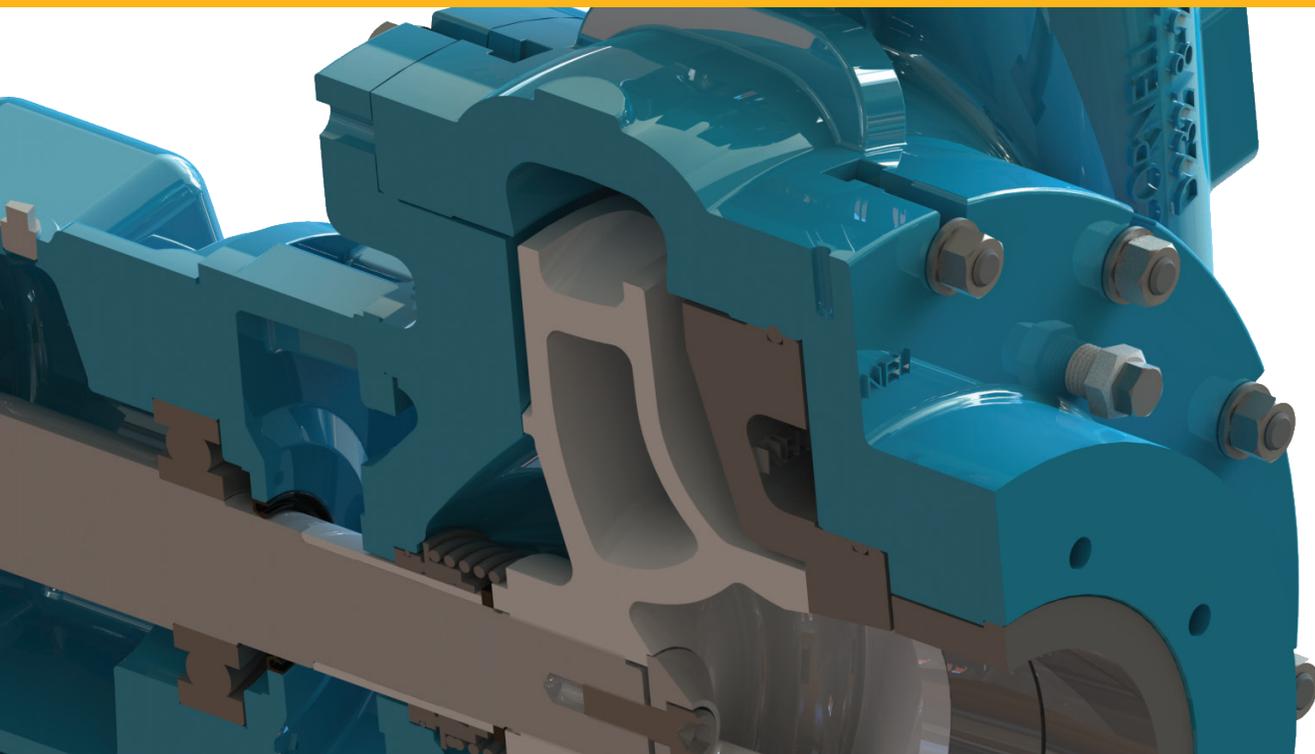
- Longer wear life to standard Cornell solids handling pumps
- Solid handling capabilities
- Works in tough environments
- Cornell's patented Cycloseal®, Run-Dry™, and Redi-prime® options are available

### APPLICATIONS:

- Mine dewatering
- Coal production
- Sand pumping
- Gravel transport
- Manure slurry
- Aggregate
- Tailings
- Oil sands



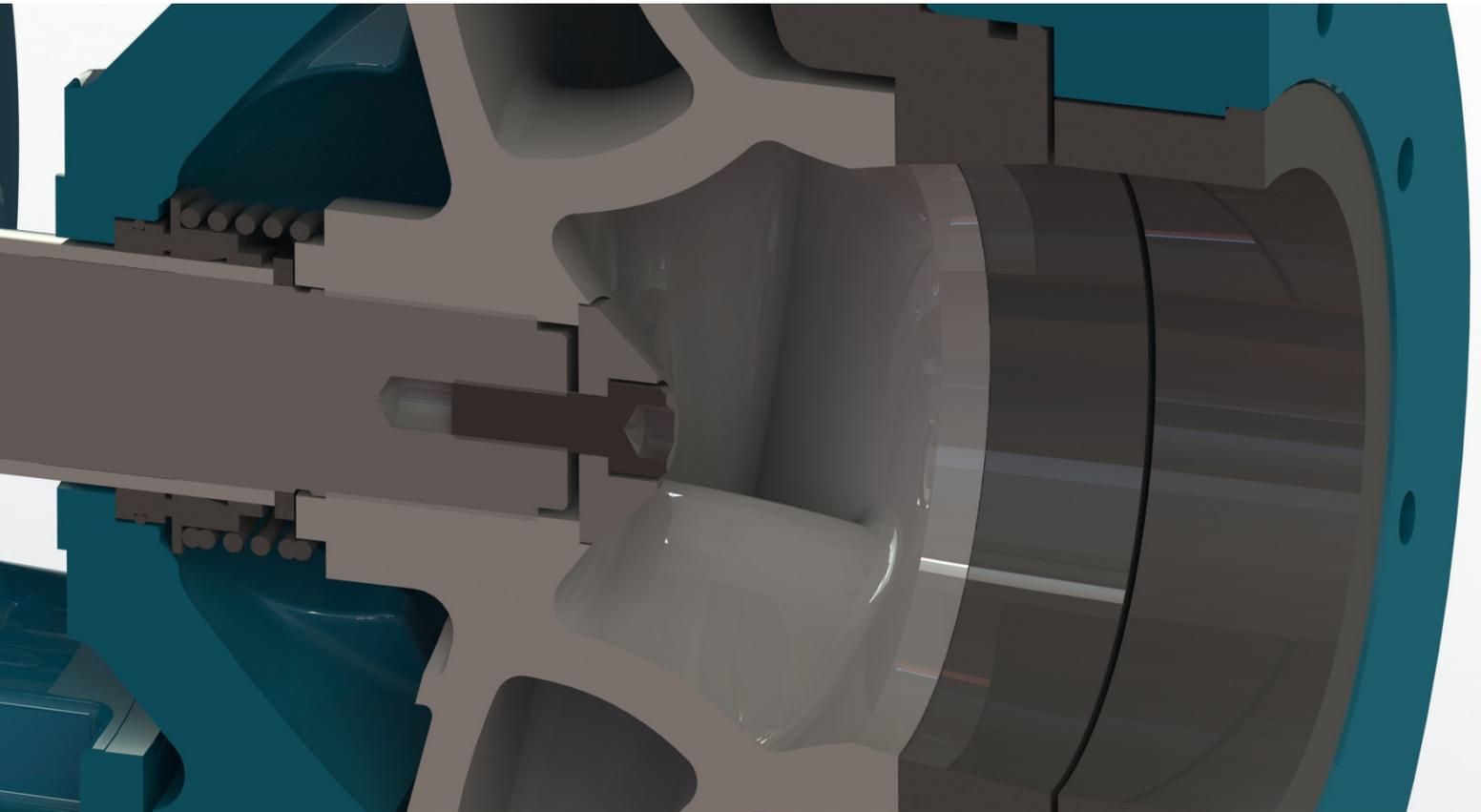
**SLURRY PUMPS, WITH SOLIDS HANDLING UP TO 3", WITH GREATER THAN 650BHN.**



# MP SERIES MINING

## CYCLOSEAL®

Cornell's **Cycloseal®** design, with its unique deflector vanes, works to create a cyclo-action. This action removes solids and abrasive material from the seal area, while purging air and gas pockets — extending seal life and eliminating any need for venting or water flush.



**CYCLOSEAL® BRINGS LONGER SEAL LIFE, DRASTICALLY REDUCES SPRAY-OVER IN OPERATION, AND DECREASES OFF-LINING PUMPS FOR MAINTENANCE**

## CYCLOSEAL® BENEFITS:

**Extended Seal Life:** Cornell's **Cycloseal®** design has proven itself in the toughest applications from manure slurry and starch recovery, to clear water, food processing, self-priming and hot cooking oil applications — in some cases more than tripling the normally expected mechanical seal life.

**Run-Dry™ Option:** All pumps equipped with Cornell's **Cycloseal®** system have an optional run-dry feature available, which serves to lubricate the seal faces even when there is no liquid in the pump casing. In situations where the pump must run dry for several hours, or where the pump may suddenly lose prime without being shut off, the **Run-Dry™** feature is a must.

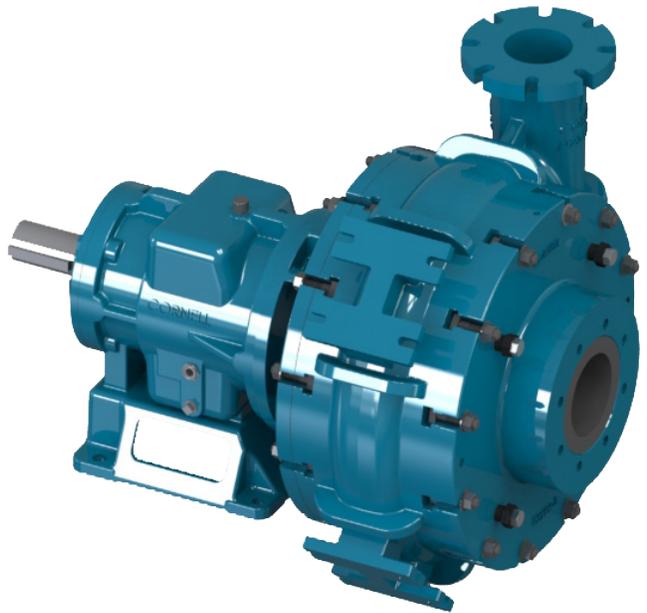
**System Savings:** The **Cycloseal®** system requires no external water flush, filters, grease cups, piping or instrumentation normally associated with packing or double mechanical seals.

**Maintenance Savings:** Longer seal life which translates into less pump down time and lower maintenance costs.

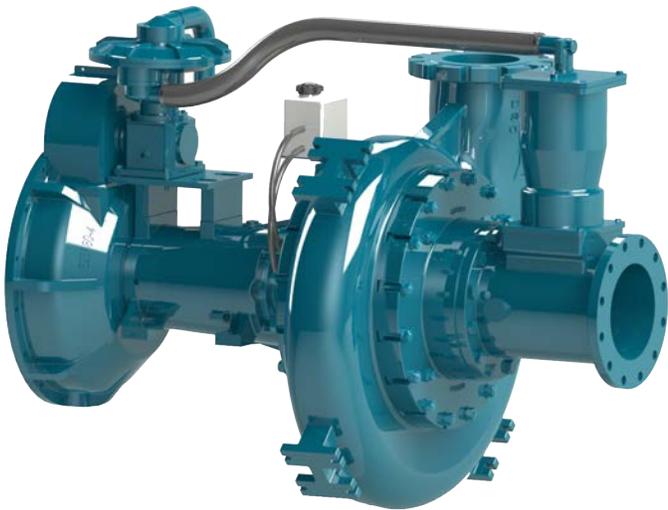
# MP SERIES MINING



**6819 MP**



**4517 MP**

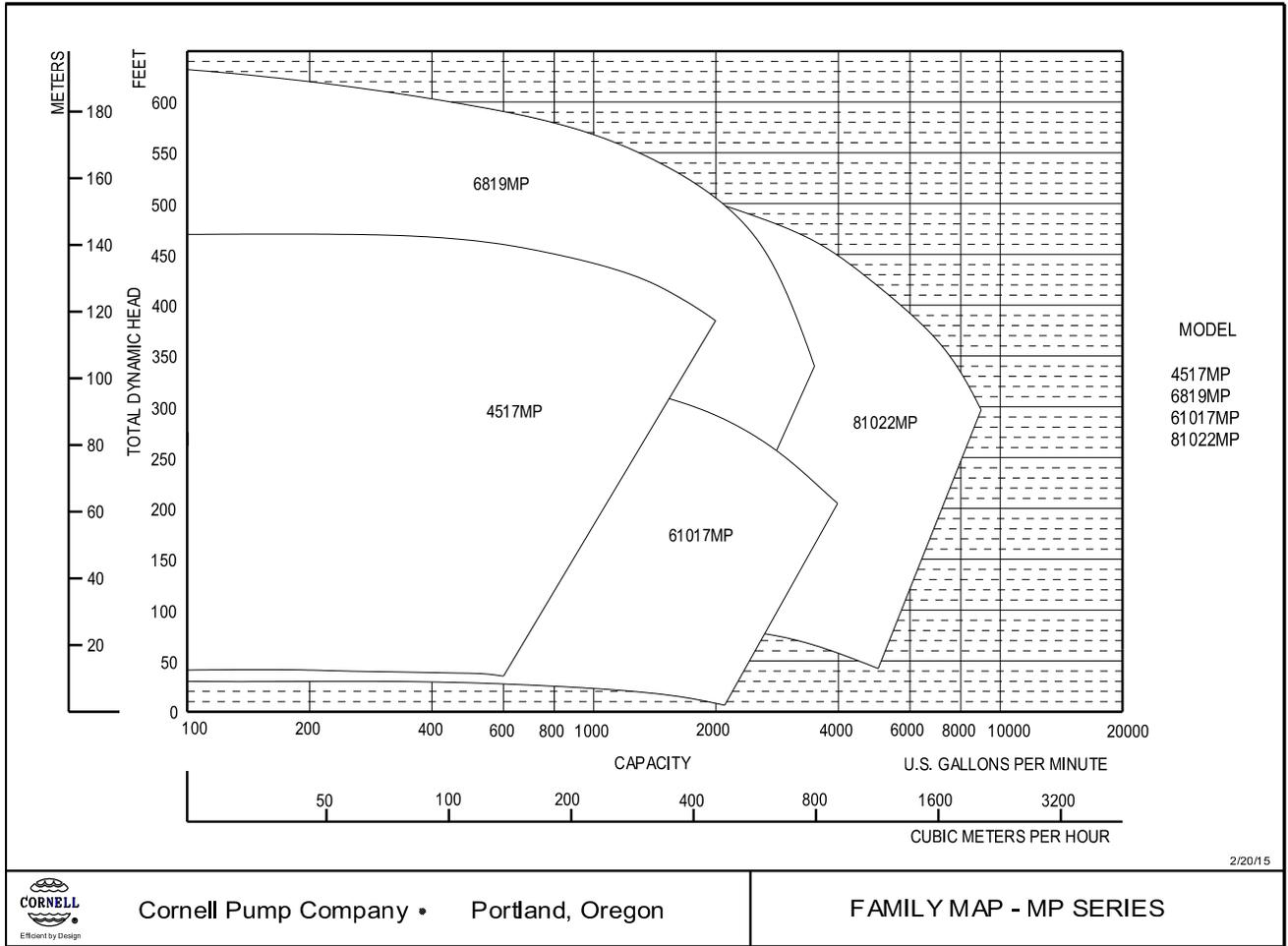


**81022 MP**



**61017 MP**

# MP SERIES MINING



SUPERSEDES: 6/21/2010

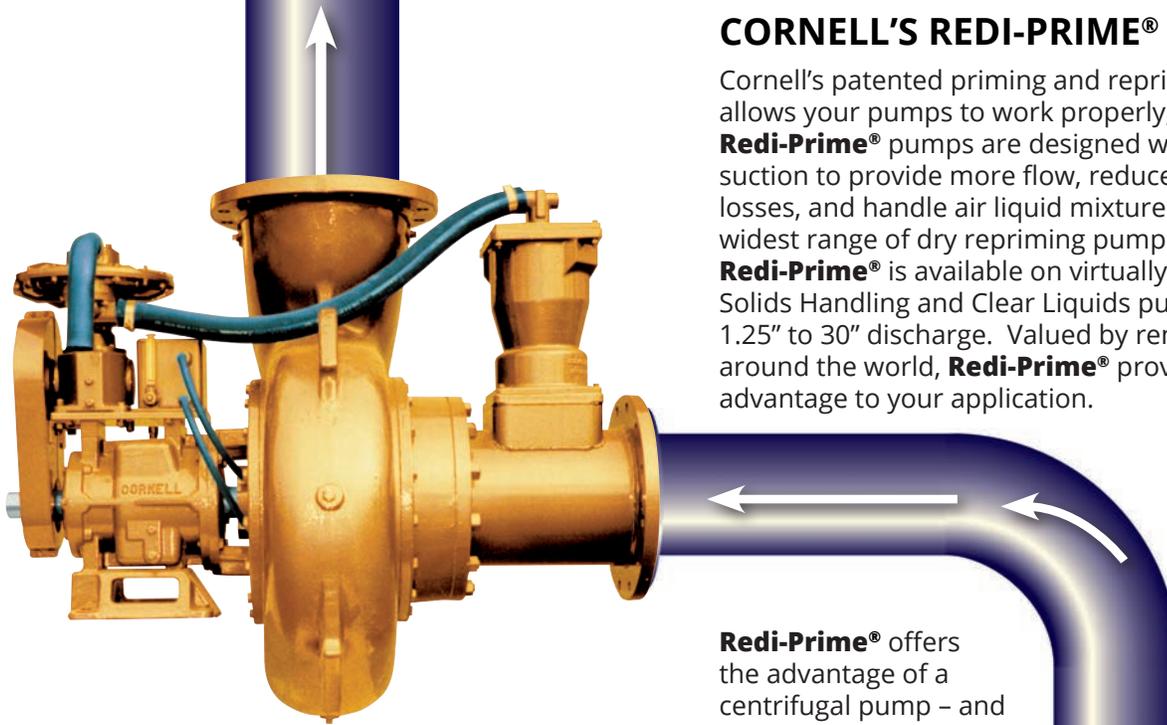
FAM-MP

RELATIVE HARDNESS	HARD	HARDER	HARDEST
MATERIAL	DUCTILE IRON	HYBRID DUCTILE AND WHITE IRON	HIGH CHROME HEAT TREATED WHITE IRON
TECHNICAL NAME	ASTM A536	N/A	ASTM A532, CL III; TYPE A 25% CR LEVEL 1
CORNELL MATERIAL CODE	CV	HYB	CAC
RELATIVE COST	\$	\$\$	\$\$\$
HARDNESS	230-300 BHN	Varies from 230 to >650 depending on componet	BHN>650 BHN

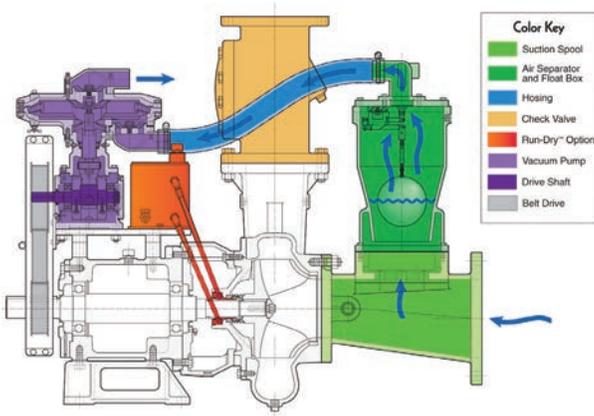
# MP SERIES OPTIONS

## CORNELL'S REDI-PRIME®

Cornell's patented priming and repriming system allows your pumps to work properly, unattended. **Redi-Prime®** pumps are designed with oversized suction to provide more flow, reduce suction friction losses, and handle air liquid mixtures with ease. The widest range of dry repriming pumps in the industry, **Redi-Prime®** is available on virtually all of Cornell's Solids Handling and Clear Liquids pumps, from 1.25" to 30" discharge. Valued by rental and OEM's around the world, **Redi-Prime®** provides a distinct advantage to your application.

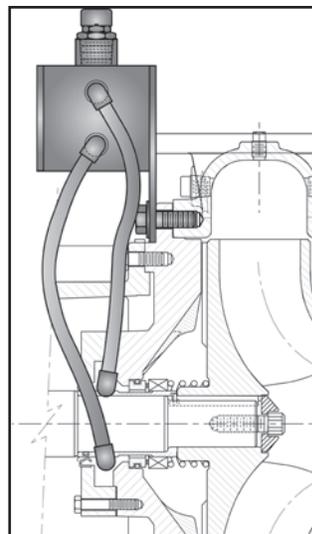


**Redi-Prime®** offers the advantage of a centrifugal pump – and allows users to replace vertical turbine pumps through the use of the unattended priming feature.



## RUN-DRY™ OPTION

Run your pump dry without the use of expensive water systems and without mechanical seal damage. Cornell's **Run-Dry™** system consists of an auxiliary gland which provides containment for an application-specific lubricant present at the inside diameter of the mechanical seal faces. This lubricant prevents dry running of the seal faces while priming, re-priming, and on standby. The **Run-Dry™** gland is connected to a lubricant reservoir via inlet and outlet lines which are oriented tangentially to the pump shaft so that shaft rotation provides circulation and subsequent cooling of the lubricant.



# ADDITIONAL MINING PUMPS



## HYDRAULIC SUBMERSIBLE PUMPS

Cornell's DuraSub™ uses a heavy duty pump end and bearing frame for direct coupling to a hydraulic motor. The DuraSub™ has a modular design which allows standard Cornell pump ends to be used as a Hydraulic submersible pump.

- Available for most Cornell pump models
- Hydraulic motor driven
- Various adapter plates available for hydraulic motor fit
- Heavy duty shaft / bearing frame assembly and wet end construction
- Premium wet end efficiencies reduce horsepower requirements
- Heavy duty pumps ends for long service life and reliability

## MX SERIES HIGH PRESSURE PUMPS

**Pressures to 800 feet TDH and flows to 8000 GPM.** Designed to handle high head applications while providing a long service life. The new high head MX SERIES pumps have multi-vane, enclosed impellers designed for INDUSTRY LEADING EFFICIENCY. The MX SERIES pumps have extra heavy wall thickness, high quality construction, CA6NM impellers and are available in a horizontal frame & SAE mounted configurations.



## CD4MCu

CD4MCu is a duplex stainless steel, with greater corrosive resistance than standard stainless steel. CD4MCu provides significantly better chloride stress cracking resistance than standard stainless steel, and much better localized corrosion resistance.

CD4MCu allows the pumps to be used in more abrasive applications, and it won't pit like regular stainless steel, has a better stress/corrosive cracking resistance than standard stainless, and higher strength than standard stainless steel. And compared with regular cast iron material, it is much more resistant to corrosion and much stronger.



## STX SERIES

Cornell has redesigned our popular self-priming line to have the best efficiencies in the industry. Combined with our patented **Cycloseal®** back plate technology, the pump is durable, powerful, and energy efficient.

- 5 year warranty
- Cycloseal technology
- Premium efficiency
- 8 percent better performance than leading competitor

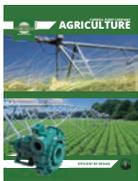


## SLURRY SP

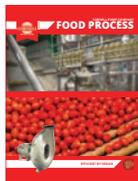
Cornell's SP Series Slurry pump brings patented **Cycloseal®** technology to the mining process industry. Adding to the diverse range of mine dewatering pumps, The SP Series Slurry pump offers a Cornell solution to abrasive applications throughout the mill process.



# MARKET AND PRODUCT LINE



AGRICULTURAL



FOOD PROCESS



INDUSTRIAL



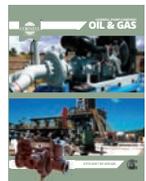
MINE DEWATERING



MUNICIPAL



REFRIGERATION



OIL & GAS



CHOPPER



CUTTER



EDGE™



HYDRAULIC SUBS



HYDRO TURBINE



IMMERSIBLE



MANURE



MP SERIES



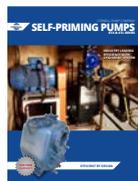
MX SERIES



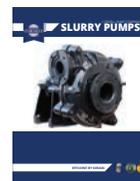
MX MINING



REDI-PRIME®



STX SERIES



SLURRY



SUBMERSIBLE



WATER TRANSFER

Cycloseal® and Redi-Prime® are Registered Trademarks of Cornell Pump Company.

Cornell pumps and products are the subject of one or more of the following U.S. and foreign patents: 3,207,485; 3,282,226; 3,295,456; 3,301,191; 3,630,637; 3,663,117; 3,743,437; 4,335,886; 4,523,900; 5,489,187; 5,591,001; 6,074,554; 6,036,434; 6,079,958; 6,309,169; 2,320,742; 96/8140; 319,837; 918,534; 1,224,969; 2,232,735; 701,979 and are the subject of pending U.S. and foreign patent applications.

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