### Cornell’s Redi-Prime® pumps

Cornell’s Redi-Prime® pumps are designed and engineered for the most rugged and demanding industries; construction, industrial, rental and municipal. With over 50 years of proven experience and reliability Cornell Pump Company has established the highest industry standards for premium quality and rugged performance.

### MINE DEWATERING

**HIGH EFFICIENCY**

**SETTING THE STANDARD**

The Double Volute system enables Cornell single-stage, end-suction centrifugal pumps to easily perform big volume and high pressure jobs. On single volute pumps, the increasing pressure acts against the impeller area and creates unbalanced radial forces. By contrast, the Double Volute system effectively balances these forces around the impeller to reduce shaft flexure and fatigue for longer seal life, bearing life and shaft life.

**DOUBLE VOLUTE**

- Fully automatic self-priming, dry-prime pump
- Handles air/liquid mixtures with ease
- Patented Cycloseal® and Run-Dry™ options
- Handles large sized solids
- High suction lift capability up to 28 feet

**FEATURES**

- Heads of up to 470 feet are possible
- Valve eliminates any liquid carry over
- Automatic Priming and Re-Primming
- Suction Lifts of 28 feet are achievable
- Backed by an industry-leading two-year warranty

**BENEFITS**

- Energy costs are at a record high and you can actually save money with Energy Efficient Cornell Pumps. Cornell manufactures MORE THAN 60 clear liquid and non-clog pumps that meet or exceed optimum efficiency standards for centrifugal pumps.

**ENERGY EFFICIENT**

- Heads of up to 470 feet are possible
- Valve eliminates any liquid carry over
- Automatic Priming and Re-Primming
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**FEATURES**

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**BENEFITS**

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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 engine mounted configurations.

- High Operating Pressures
- High Flow Requirements
- Dependable, High Quality Construction
- Available in Horizontal Frame Mount & SAE Engine Mount Styles
- All Iron construction
- Run-Dry™ seal option
- Ductile Iron case, CA6NM Impeller
- Impeller wear ring optionally hardened to 375-425 BNH
- Volute wear ring optionally hardened to 450-500 BHN
- Double angular contact thrust bearings
- 4142 Alloy Steel shaft
- Oil fitted or grease lubricated frames
- 420HT shaft sleeves available for abrasive applications
- Dynamically balanced Impellers

**HIGH HEAD DEWATERING PUMPS**

- UP TO 25FT LIFT - HEADS TO 800FT - FLOWS TO 4000 GPM

**Specifications:**
- Various Impeller Sizes
- Single or Double Volute
- Multiple Mounting Configurations

**Graphs and Data:**
- Performance curves for each model
- Capacity vs. Total Dynamic Head
- HP vs. GPM conversion charts
- Total Dynamic Head vs. NPSH Required

**Models:**
- 6822MX
- 4622MX
- 3419MX
- 6NHTB19

**Technical Details:**
- HP x .746 = KW
- GPM x 3.785 = Liters/Minute
- GPM x .227 = Cubic Meters/Hour
- Inches x 25.4 = Millimeters
- Feet x .305 = Meters

**Manufacturers:**
- Cornell Pump Company
- Portland, Oregon
PUMP OPTIONS: CLEAR LIQUID REDI-PRIME® PUMPS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Disch. Size</th>
<th>Max Capacity</th>
<th>Max Solids</th>
<th>Max Head</th>
<th>Max Suction</th>
<th>RPM</th>
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<tbody>
<tr>
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<td>.75&quot;</td>
<td>400 GPM</td>
<td>.38&quot;</td>
<td>300'</td>
<td>25'</td>
<td>2200</td>
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<tr>
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<td>500 GPM</td>
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PUMP OPTIONS: SOLIDS HANDLING REDI-PRIME® PUMPS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Disch. Size</th>
<th>Max Capacity</th>
<th>Max Solids</th>
<th>Max Head</th>
<th>Max Suction</th>
<th>RPM</th>
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<tbody>
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<td>175'</td>
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<td>10.2&quot;</td>
<td>110'</td>
<td>25'</td>
<td>585</td>
</tr>
</tbody>
</table>

CLEAR LIQUID REDI-PRIME® CURVES

SOLIDS HANDLING, ENCLOSED IMPELLER REDI-PRIME® CURVES
TRASH PUMPS
SELF-PRIMING
ST SERIES TRASH PUMPS
FOR LARGER DIAMETER SOLIDS AND
DIMENSIONAL INTERCHANGEABILITY

SJ SERIES
SOLIDS HANDLING PROCESS PUMPS

1. 2ST
2. 3ST
3. 4ST
4. 6ST
5. 8ST

1. 1.5SJ4
2. 1.5SJ7
3. 2SJ5
4. 2SJ7
5. 2SJ9
6. 3SJ6
7. 3SJ8
8. 4SJ10
9. 4SJ12
10. 6SJ10
11. 6SJ16
12. 8SJ12
13. 10SJ12
14. 12SJ16

SUCTION CHECK VALVE
Canvas reinforced nitrile rubber or Viton suction check valve which can easily be replaced through the front cover without removing the pipework.

DUAL WEAR PLATES
Easily replaceable front and rear wearplates with abrasion and oil resistant rubber facing.* The rubber facing protects the impeller blades against wear due to small abrasive particles, reducing the need for adjustment to take up wear, thus ensuring new performance and priming well into the service life of the wear parts. Cast iron and stainless steel wear plates available on request.

SOLIDS HANDLING IMPELLER
Balanced Ductile Iron or Stainless Steel two blade impeller handling solids up to 3” in diameter. Pump out vanes on rear to reduce the build up of foreign matter and reduce the pressure on the mechanical seal.

HEAVY DUTY BEARINGS
Heavy duty thrust bearings sized for V Belt drive loads. Separate oil filling plugs for bearings and mechanical seal with sight gauges.

SILICON-CARBIDE SEAL
Externally lubricated mechanical seal is standard. Can run dry on high vacuum even when pumping highly abrasive liquids.

SHIMLESS IMPELLER
The external coverplate allows for the easy adjustment between the clearance of the impeller and the external wearplate. Instead of realigning belts, couplings and other drive components, the external coverplate eliminates those needs. This also makes sure that the seal assembly and the impeller back clearance are not disturbed. This design feature increases the life of the wearplate and the impeller.
ADDITIONAL PRODUCTS

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

CHOPPER PUMPS

The Cornell Chopper pump is ideally suited for chopping solids. It is constructed of ASTM A536, grade 65-45-12 ductile iron and uses our patented Cycloseal® design (patent #5489187). The cutter bar is of T1 tool steel, heat treated to a minimum 60 Rockwell C hardness. The impeller is of AISI 8630 cast steel, heat treated to a minimum 60 Rockwell C hardness. The shaft is AISI 4142 and the shaft sleeve is 416 stainless steel. Back-to-back angular contact ball thrust bearings and single ball radial bearings make for smooth operation. The Chopper pump is fitted with a John Crane type 2 tungsten carbide mechanical seal. TDH ranges from 30-200 with flows ranging from 0-1500 GPM. An optional oil lubrication system with reservoir is available.

SUBMERSIBLES HIGH EFFICIENCY

Cornell uses the same high efficiency pump-ends for our submersibles that have been proven time and time again in standard municipal applications. Coupled with the highest quality motors, Cornell’s submersible product line provides the best possible value. The bottom line – Cornell Submersible Pumps cost less to operate.

At Cornell we understand the need for reliability, durability and efficiency. This is why we have coupled our pumps with the most reliable and durable submersible motors on the market. Cornell motors are FM approved and suitable for Class I, Division I, Group C & D, explosion proof service and are inverter duty. Non-wicking, Permanently numbered leads are potted into a separate cable cap assembly, preventing leakage to the stator. Cornell motors are protected by thermostats and utilize class F insulation. Dual moisture probes are installed for the early detection of seal failure.

Capacities from 80 GPM to 15,000 GPM and heads from 10 feet to 400 feet give Cornell a clear performance advantage.
REDI-PRIME®
Cornell Redi-Prime® pumps are designed with oversized suctions to provide more flow, reduced friction losses, and higher suction lift. The priming system was designed with the environment in mind. By using a positive sealing float box and a diaphragm vacuum pump, there is no water carry-over to contaminate the environment. With suction lifts of up to 28 feet, heads to 470 feet and flow rates exceeding 20,000 GPM, most Cornell pumps can be readily fitted with the Redi-Prime® system.

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.

SOLIDS HANDLING IMPELLER OPTIONS
Cornell’s two- and three-port enclosed impellers are designed to handle large solids and maintain exceptional hydraulic efficiencies. Cornell’s Delta™ style impeller is specifically designed for handling stringy materials and heavy sludge for low- to medium-head applications. The three- or four-vane, semi-open impeller generates a cutting action designed to handle concentrated slurries for high head applications.

MOUNTING CONFIGURATIONS
Cornell’s Modular Frame design allows for easy adaptability. Choose a pump, then pick the mounting configuration best suited to your application. Right hand and left hand rotation along with tangential or centerline discharges are available for most pumps.
MARKET AND PRODUCT LINE

AGRICULTURAL  FOOD PROCESS  INDUSTRIAL  MINE DEWATERING  MUNICIPAL  REFRIGERATION  WATER TRANSFER

CHOPPER  CUTTER  EDGE™  HYDRAULIC SUBS  HYDRO TURBINE  IMMERSIBLE  MANURE  MP SERIES

MX SERIES  REDI-PRIME  STX  SLURRY  SUBMERSIBLE

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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CORNELLPUMP.COM
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