CORNELL PUMP COMPANY

AGRICULTURE

IRRIGATION AND MANURE PUMPS

CORNELL®
EFFICIENT BY DESIGN

IRRIGATION PUMPS

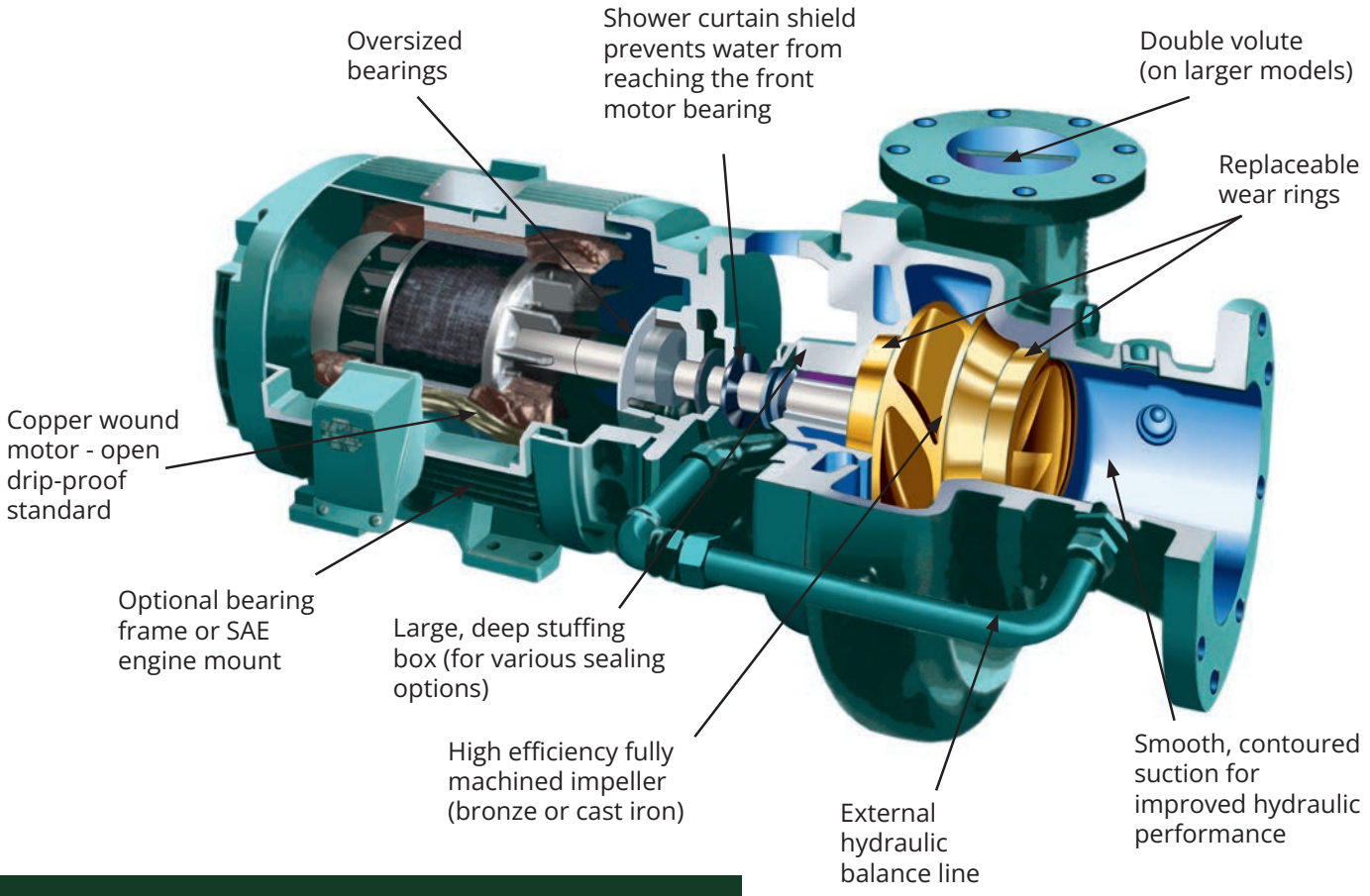
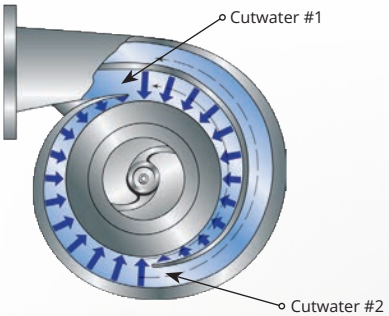
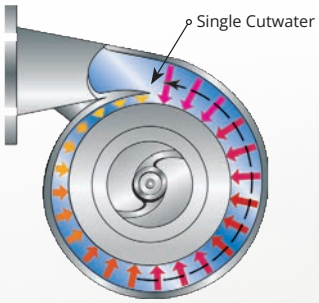


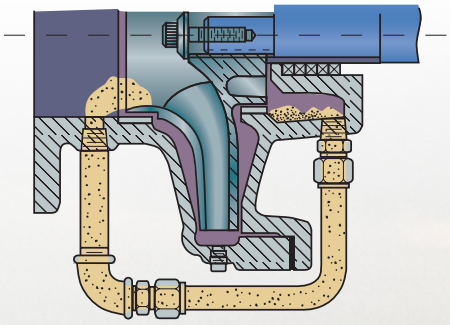
Image above shows close coupled mount. Also available in vertical, frame and engine mount configurations.



Double Volute



Single Volute



DOUBLE VOLUTE

More than 30 years ago, Cornell was the first in the industry to introduce the double-volute system. This innovation effectively balances forces within the pump, reducing radial load, shaft deflection, and fatigue. Doing so eliminates shaft breakage and extends the service life of packing and mechanical seals, wear rings, and bearings while ensuring high hydraulic efficiency.

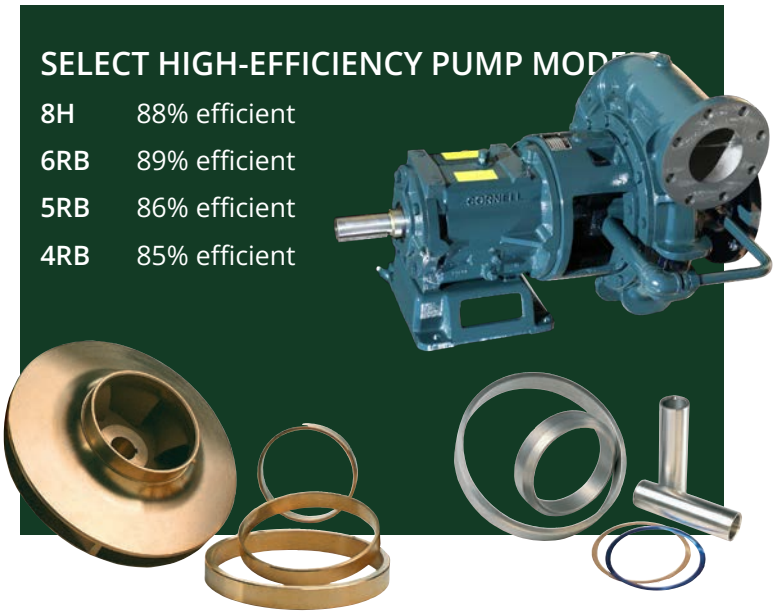
EXTERNAL HYDRAULIC BALANCE LINE

Cornell utilizes an external hydraulic balance line to reduce axial loading on the impeller, shaft, and bearings by equalizing pressure between the impeller hub area and the pump suction. This system also helps move sand and silt from the stuffing box to the low-pressure area at the pump suction, reducing wear on the wetted parts.

IRRIGATION PUMPS

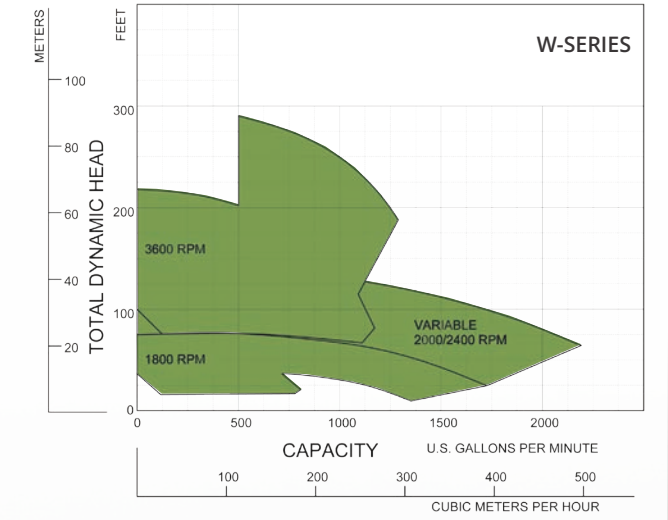
ENERGY EFFICIENCY

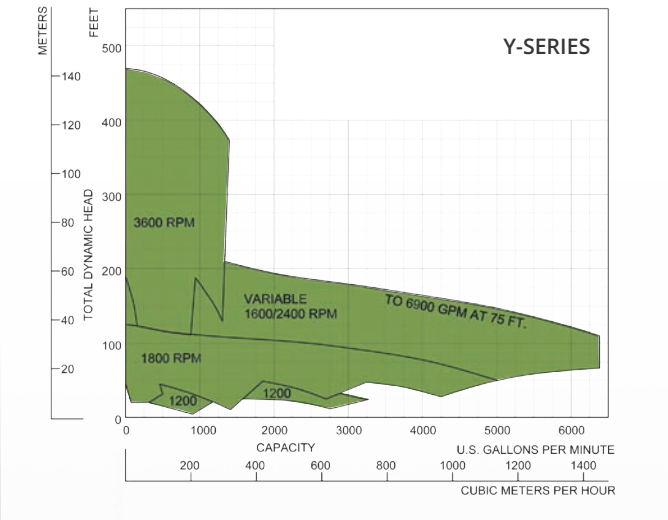
Cornell Pumps are engineered to provide superior efficiency, surpassing industry standards. Depending on the operational conditions, such as operating hours, fuel type, and horsepower needed, you can save over $3,000 annually in energy costs. With over 35 models available, Cornell offers a wide range of IRRIGATION pumps that deliver best-in-class efficiency and meet or exceed optimum standards for centrifugal pumps.

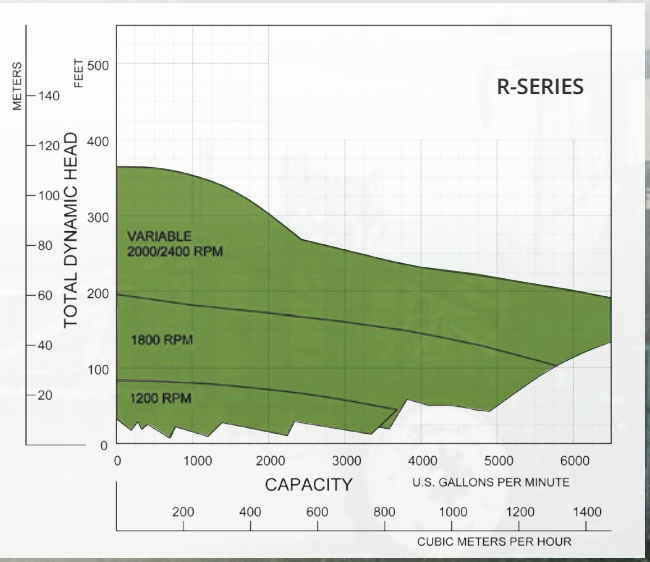


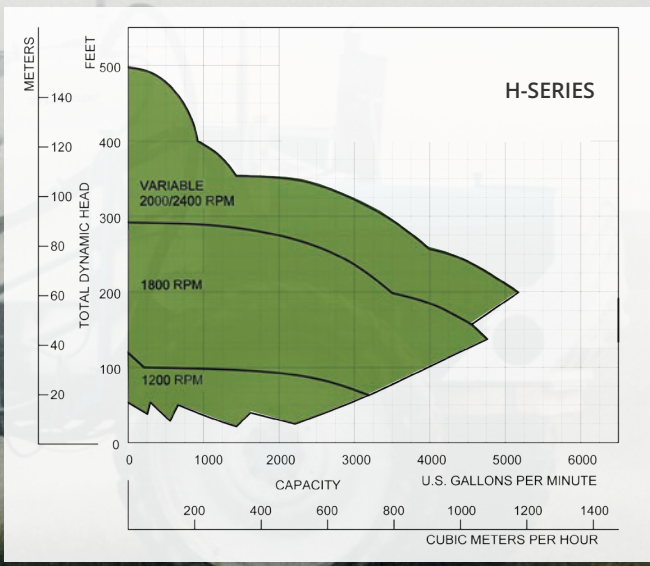
MATERIALS OF CONSTRUCTION

Cornell irrigation pumps are fabricated with high-quality materials, including cast iron, bronze fitted, or all-iron construction, to ensure longevity and durability. Optional materials are also available for applications that require resistance to abrasive or caustic substances. To further enhance performance and longevity, these pumps are designed with balanced impellers, heavy-duty shafts, replaceable shaft sleeves, and wear rings as standard features.



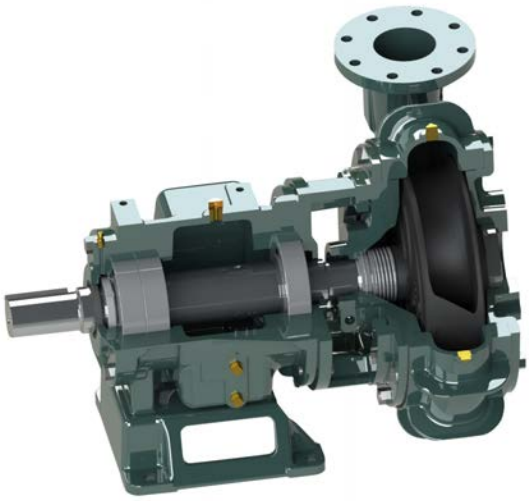






MANURE PUMPS

Cornell provides over 60 heavy-duty pumps that can handle solids in even the most challenging slurry applications. With three distinctive impeller designs, namely Enclosed, Semi-Open, and Delta, we ensure a suitable fit for most applications.



IMPELLER OPTIONS

Cornell provides a range of impeller designs to meet various requirements for liquid waste slurry applications. The Delta-style impeller is suitable for low to medium head requirements, handling heavy sludge and straw, and twine effectively. The two and three-port enclosed impellers are designed for high efficiency and high head applications, with the ability to handle large solids. The semi-open impeller features three or four blades with a cutting action that makes it ideal for handling challenging slurries at high heads.

MP SERIES PUMPS ARE DESIGNED FOR COARSE ABRASIVES

The MP Mining Pump Series from Cornell Pump Company incorporates our patented Cycloseal® technology with over 65 years of innovative pump design and manufacturing experience. These pumps are engineered explicitly for coarse abrasive slurry applications like mine dewatering, coal, sand, gravel, and manure, offering high operating pressures to ensure efficient performance.

MATERIALS OF CONSTRUCTION

Cornell's Legacy Manure Slurry pumps are constructed entirely of iron and come with hard-face mechanical seals with an extended lifespan. In the case of abrasive applications, optional materials are also available. With flow rates up to 8,000 GPM and heads up to 625 feet (equivalent to 270 psi), these pumps are suitable for various applications.

SPECIFICATIONS

- Flows to 9,000 GPM
- Heads to 625' (270 PSI)
- Discharge Sizes: 4", 6", and 8"
- High chrome white iron or HT ductile iron pump ends
- Front, adjustable wear plate
- Replaceable hard suction wear plate
- Hardness > 650 BHN available
- Thick cross sections for abrasive wear
- Cycloseal, hard-faced single seal
- Enclosed Impeller

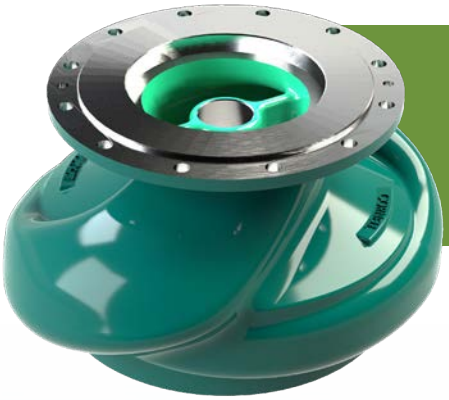
CYCLONE VERTICAL TURBINE PUMP

A NEW TWIST ON A PROVEN DESIGN

Cornell Pump's Cyclone VT series utilizes the superior hydraulics of the well-known RB series, now in a submerged design. This short-set vertical turbine pump requires no priming and boasts up to 89% energy efficiency. The Cyclone is designed for various applications, including ponds, rivers, canals, sumps, and dewatering. With a focus on robust design, quality build, and proven hydraulics, the VT series fills a unique niche, assuring end-users of Cornell's renowned two-year warranty for added peace of mind.

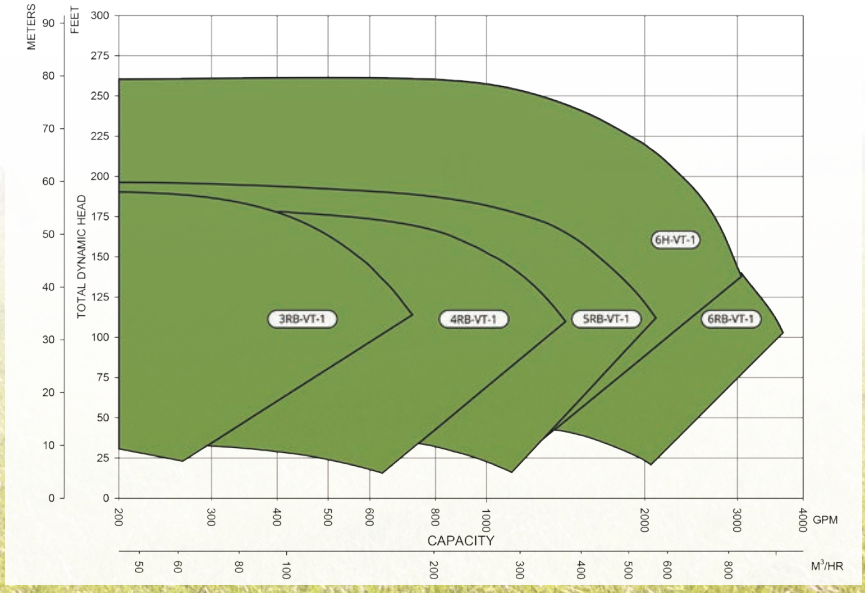
FEATURES & BENEFITS

- Spiral bowl construction: Improves flow path and pump efficiency.
- Fewer stages of replacing and maintaining: Improved uptime and reduced costs.
- Two-year warranty: Industry-leading protection.
- VFD Operable: Usable at various speeds for maximum energy savings.
- Large bearings: Product-lubricated or oil lubricated. Keyed and bolted 316SS impeller for positive drive.
- Industry-standard cast iron discharge head configuration for VHS motors.
- Wider flow range per model than standard turbine products.
- Large diameter 416SS shafts for minimal deflection, less wear.
- Industry-standard column, shaft & line-shaft bearing construction.



UNIQUE SPIRAL-SHAPED BOWL

Cornell engineers have designed a spiral-shaped bowl that enables using a standard centrifugal impeller, reducing the number of stages needed and utilizing high-efficiency impeller hydraulics in our vertical turbine pump design. Additionally, an epoxy lining is added to enhance performance and efficiency.



CUTTER BLADES FOR MANURE

BLADE CUTTER

Consists of a rotating and stationary cutter utilizing a standard impeller.

- Minimal energy consumption (4% or less) for solution
- Designed to break up clogs/ ragging
- Hardened cutter material
- Adjustable clearances
- Minimal flow restrictions
- Does not change external pump dimensions
- Retrofittable

WASTE WARRIOR AUGER CUTTER

The more aggressive solution features scythe-like edges from the impeller eye, sweeping all the areas where the suction pipe meets the volute.

- Handles most aggressive and troublesome clogs and ragging
- Limited energy consumption (~ 8%) for solution
- Hardened cutter material
- Insignificant flow restrictions
- Does not change external pump dimensions
- Retrofittable

CUTTER ADVANTAGES

Minimal Increase To Cost Of Operations

Labor Savings By Reducing Clean-Out Events

Two-Year Warranty

Improve Efficiency By Reducing Down-Time

WIRELESS PUMP MONITORS

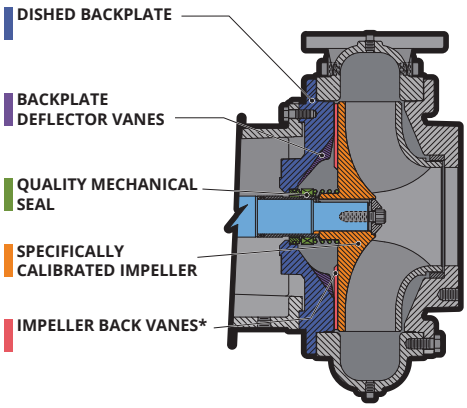
PULSE™

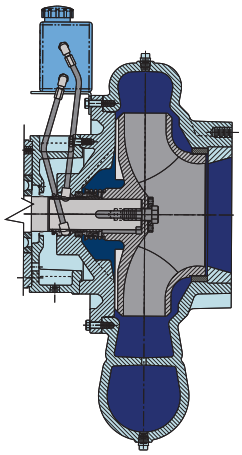
Cornell Pulse is a new technology that allows real-time monitoring of a pump's vibration severity and temperature. It is a compact device mounted on the pump that wirelessly captures pump data and displays it on a mobile app. When integrated with Cornell's Remote Pump Maintenance and Monitoring (RPM2) system, Pulses report data to the cloud, enabling users to track pump and rotating equipment conditions.

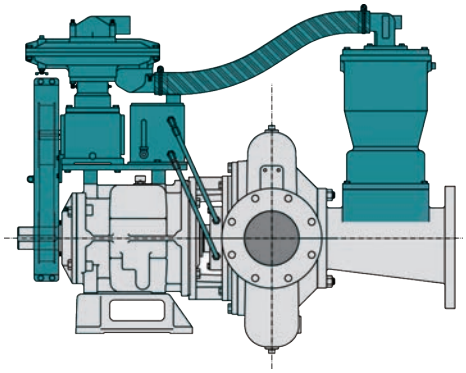
CO-PILOT™

Cornell Co-Pilot is a comprehensive monitoring and protection system that connects to your pump and provides real-time data on temperature, vibration, location, pressure, flow, RPMs, start/stop, and more. It also interfaces with control systems like SCADA. The system graphs and stores data in the mobile app or desktop system and sends alerts for any out-of-condition operation. Co-Pilot is ideal for predictive maintenance and ensuring the pump's optimal performance.

AVAILABLE OPTIONS







CYCLOSEAL®

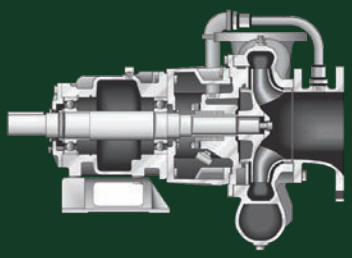
Cornell's Cycloseal is an ideal solution for water and wastewater applications. This patented technology is a self-contained single mechanical seal with a dished backplate, eliminating the need for an external flushing system or water flush line. The configuration includes stationary deflector vanes, contoured impeller back vanes, and a dished backplate that create pressure gradients, moving solids and vapor away from the seal faces. Cycloseal can last up to ten times longer than a typical mechanical seal.

RUN-DRY™

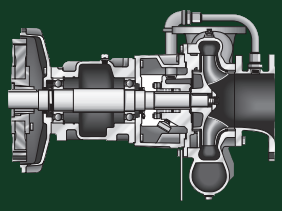
Cornell has developed the Run-Dry system to prevent pump damage during dry operating conditions. This system features an auxiliary gland and oil reservoir that keeps seal faces lubricated during priming, re-priming, or standby operation. The gland is connected to a lubricant reservoir, allowing continuous circulation and cooling of the lubricant and seal faces. The Run-Dry system is ideal for applications where dry operation is possible.

REDI-PRIME®

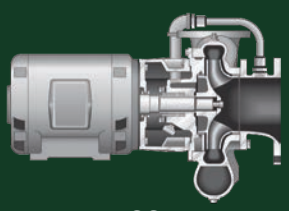
Cornell's Redi-Prime pumps have oversized suctions that increase flow, decrease friction losses, and enhance suction lift. The priming system is environmentally friendly, featuring a positive sealing float box and a diaphragm vacuum pump that prevents water carry-over and contamination. The Redi-Prime system can be easily installed on most Cornell pumps, providing suction lifts of up to 28 feet, heads up to 800 feet, and flow rates surpassing 20,000 GPM.



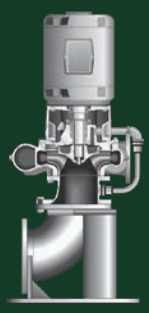
F
Frame Mount



EM
Engine Mount



CC
Close-Coupled



VM/VC/VF
Close Coupled
Coupled
Frame Mount

MOUNTING CONFIGURATIONS

Cornell offers a variety of mounting options for their irrigation pumps, including horizontal and vertical close-coupled pumps, frame-mounted pumps in both vertical and horizontal orientations, and pumps with SAE bell housing that mounts directly to an engine.

CORNELL PUMP COMPANY

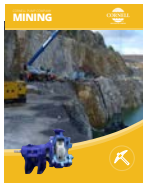
MARKET & PRODUCT LINE

CORNELL
EFFICIENT BY DESIGN

AGRICULTURE

FOOD PROCESS

INDUSTRIAL



MINING

MUNICIPAL

WATER TRANSFER

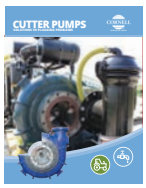
REFRIGERATION

CONSTRUCTION

SLURRY

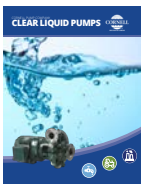
SLURRY SM

MANURE



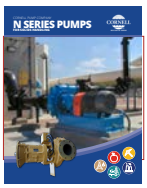
CUTTERS

SELF PRIMING



CLEAR LIQUIDS

MX SERIES



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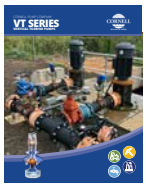
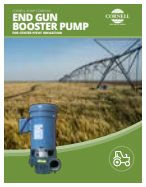
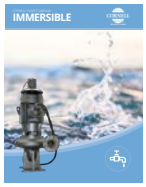


CYCLONE™



EDGE™

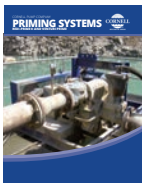
HYDRAULIC SUBS



IMMERSIBLE

CD4MCU

RUN-DRY™



PRIMING SYSTEMS

CYCLOSEAL®

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:

6,074,554; 6,036,434; 6,079,958; 6,309,169; 6,104,949.

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CORNELLPUMP.COM

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