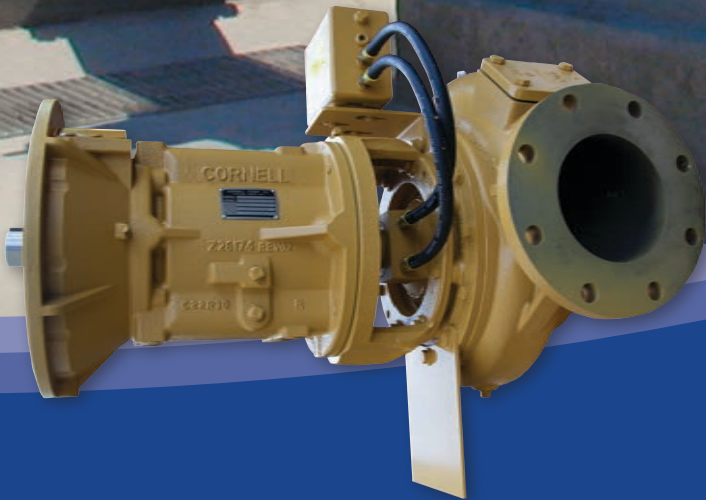


CORNELL PUMP COMPANY

# N SERIES PUMPS

FOR SOLIDS HANDLING



Preferred Australian Mining Supplier &  
Cornell Pump Partner

**SOURCE**  
Bespoke Pumping Solutions

# N SERIES PUMPS

## WHAT SETS CORNELL'S SOLIDS HANDLING PUMPS APART

Cornell Pump has produced robust, highly efficient pumps since 1946, and our innovative pump concepts have provided unmatched value. Cornell clear liquid, solids handling, and grit/slurry pumps provide the reliability and interchangeability demanded in many applications. Cornell offers many pump models and configurations to fit into existing installations. We'll also work with you to create a custom system to satisfy your needs.

Our technical and engineering staff is the best at providing quality solutions.

### PUMPS DESIGNED FOR SPECIFIC JOBS

Our team of expert engineers designs pumps to meet the varying demands of industry applications, such as solids handling, slurry, and head requirements.



### OUTSTANDING EFFICIENCIES

We put our experience and knowledge to work to produce tested designs with some of the highest efficiencies of any pumps on the market.



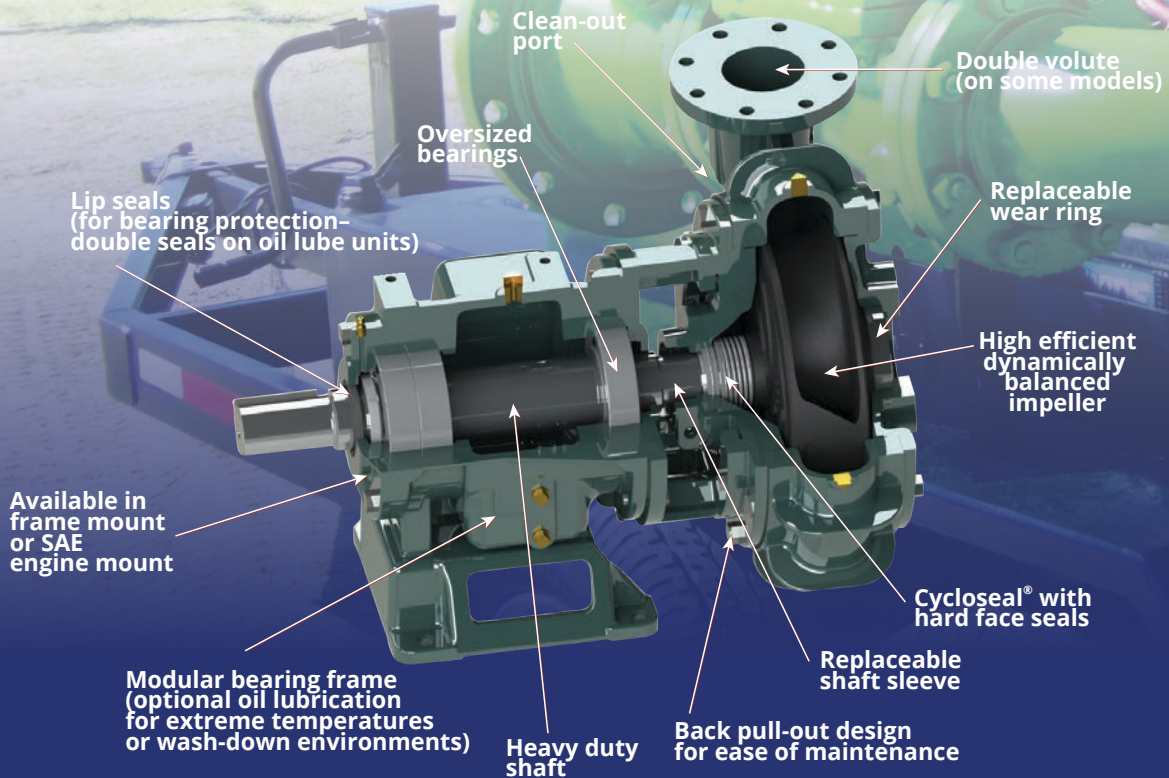
### ROBUST CONSTRUCTION

Cornell pumps are built using superior materials selected for suitability to each pump's intended application. Heavier casting walls, thicker shafts, and fully-machined impellers make Cornell pumps more rugged and durable than other pumps.



### A WIDE VARIETY OF SIZES AND CONFIGURATIONS

Models range in size from 1" to 30", and a range of configuration options are available for each model – including frame and engine mount options and Cornell features like Run-Dry™ and Redi-Prime®.



# N SERIES PUMPS

BETTER FEATURES, MORE BENEFITS:

## CORNELL SOLIDS HANDLING PUMPS



### N SERIES PUMPS

Cornell has produced solids handling pumps since the 1950s. Cornell offers a wide range of solids handling pumps, from 3" to 24" discharge sizes, to handle the most difficult solids applications.

The N series fills the need for medium-duty solids handling capabilities, with efficiencies up to 82%, solids handling sizes up to 10.2", and flows up to 38,000 GPM. Cornell's N series pumps can be found in a wide range of applications in the Municipal, Agricultural, and Industrial markets; and are available in a variety of mounting configurations, including close-coupled, SAE engine mount, horizontal, and vertical mounted.

### CHOPPERS & CUTTERS

Chopper impellers (4NC/6NC) and cutter assemblies expand the capabilities of N-series pumps to handle difficult solids. Many N series pumps are also available in CD4MCu to resist corrosion and pitting caused by abrasive solids.

### SP & MP SERIES PUMPS

The Cornell SP & MP series pumps are also designed for solids handling and offer greater wear resistance at higher operating pressures, ideal for the worst slurry and sludge in mining and agricultural applications.

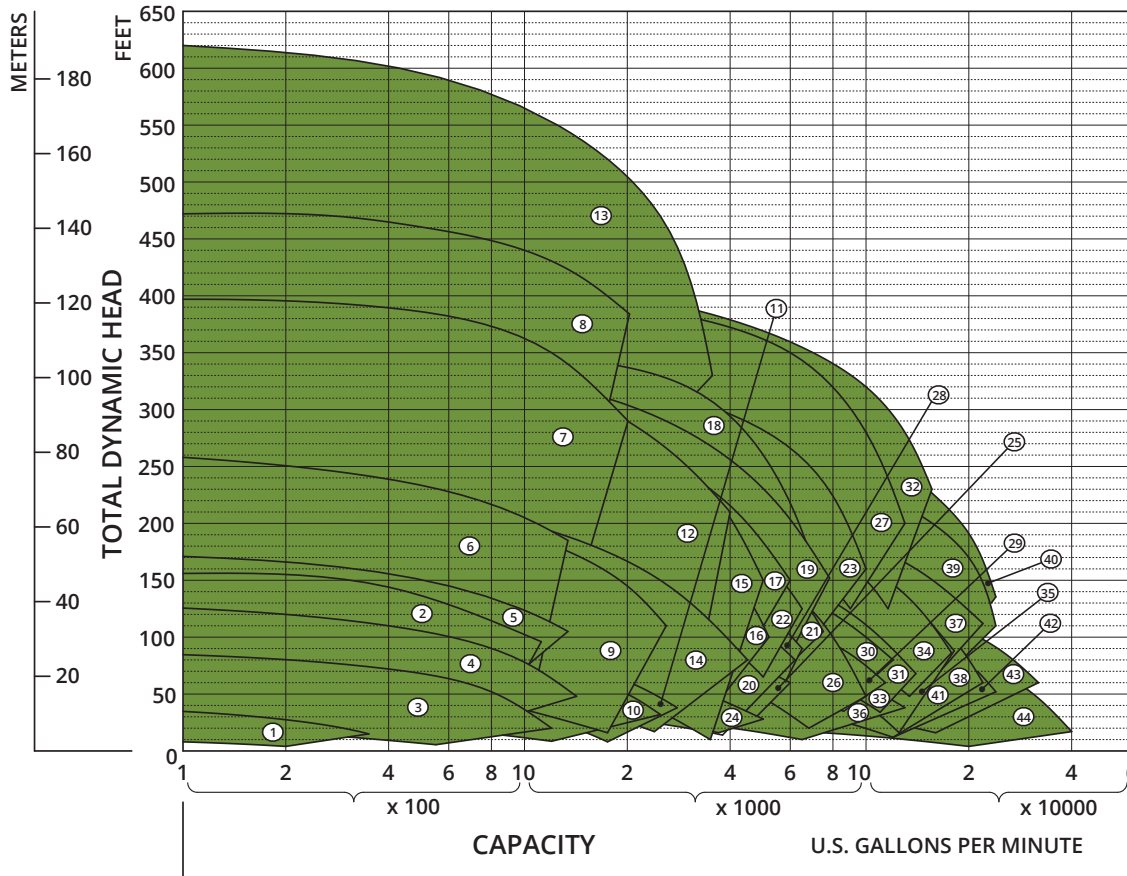
### BUILT TO LAST

Cornell N and T Series pumps are designed and built to superior standards to withstand the most demanding applications. Cornell pumps offer excellent hydraulic efficiencies, low maintenance, and operating costs and are backed by a two-year warranty.



- REPLACEABLE WEAR PARTS, INCLUDING WEAR RINGS AND SHAFT SLEEVES
- DYNAMICALLY-BALANCED IMPELLERS
- OVERSIZED BEARINGS WITH MIN. 20,000-HOUR LIFE
- VARIOUS MATERIALS OF CONSTRUCTION FOR ABRASIVE OR HARD-TO-HANDLE SOLIDS
- HIGH SUCTION LIFT
- HEAVY WALLED CASTINGS FOR DURABILITY
- DOUBLE VOLUTES FOR BALANCING INTERNAL PRESSURES
- LOW SHAFT DEFLECTION
- PATENTED CYCLOSEAL DESIGN (#5489187)
- NO SEAL FLUSH NEEDED

# PUMP PERFORMANCE

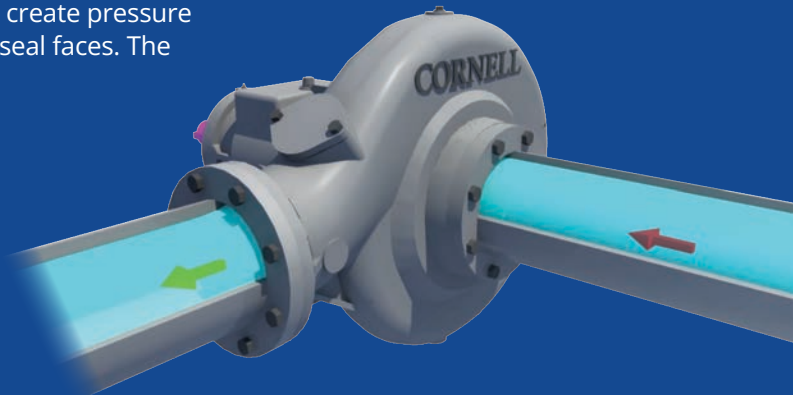


- |             |              |
|-------------|--------------|
| 1. 3NLT     | 26. 12NHTB   |
| 2. 3NNTL    | 27. 12NHTL   |
| 3. 4NNTL    | 28. 12NHTM   |
| 4. 4NNT     | 29. 12NNF    |
| 5. 4NHTA    | 30. 12NHG28  |
| 6. 4414T    | 31. 12NNT    |
| 7. 4514T    | 32. 14NHG    |
| 8. 4NHTB    | 33. 14NHG34  |
| 9. 4NHTB19  | 34. 14NHGA   |
| 10. 6NHTA   | 35. 14NHGH   |
| 11. 6NNT/TL | 36. 14NHG28  |
| 12. 6NHT/TH | 37. 16NHGH   |
| 13. 6NHTB   | 38. 16NHG22  |
| 14. 6NHTB19 | 39. 16NHG26  |
| 15. 8NNT/TL | 40. 16NHT32  |
| 16. 8NHTA   | 41. 18NHG    |
| 17. 8NHTH   | 42. 18NHG22  |
| 18. 8NHTR   | 43. 18NHFL   |
| 19. 8NHG19  | 44. 18NHFL34 |
| 20. 8NHG22  | 45. 18NHG34  |
| 21. 8NHGA   | 46. 20NHFL   |
| 22. 10NNT   | 47. 20NHFL   |
| 23. 10NHTB  | 48. 24NNG    |
| 24. 10NHTBH |              |
| 25. 10NHTA  |              |

## CYCLOSEAL® SYSTEM FOR GRIT REMOVAL

CYCLOSEAL is a self-contained single mechanical seal with a dished backplate. This configuration requires no external flushing and eliminates the need for a water flush line. The Cycloseal uses stationary deflector vanes cast into the dished pump backplate and impeller back vanes to create pressure gradients that move solids and entrained vapor away from seal faces. The Cycloseal system is only available on Cornell pump models.

- No flush water required
- Removes grit from pump seal compartment
- Extends pump seal life three times standard mechanical
- No drips/mess at the application site
- Reduced maintenance costs
- Increased uptime and reliability



# SOLIDS HANDLING IMPELLERS

## ENCLOSED TWO, THREE, AND FOUR PORT

### SPHERICAL SOLIDS

The pump efficiently handles large spherical solids while maintaining optimal head and efficiency.

- 2" or larger solids
- 3" to 30" discharge sizes
- Flows to 40,000 GPM and heads to 450'



## THREE OR FOUR BLADED, SEMI-OPEN

### SLURRY

The semi-open impeller's cutting action enables it to handle high head slurries more effectively.

- 1" or larger soft solids
- 2.5" to 10" discharge size



## DELTA STYLE

### STRAW AND STRINGY MATERIALS

Impeller vanes with trailing edges generate vortices that pass solids through the impeller without causing "hair pinning" or hang-ups of stringy materials, while larger solids are effectively broken down.

- For difficult solids
- 3" to 10" discharge size
- Flows to 5000 GPM and heads to 400'



## BLADE CUTTER

### CLOGGING MATERIALS

Clogs and stringy materials are effectively broken down before they reach the impeller, while maintaining high efficiencies, thanks to the rotating and stationary cutter blades situated at the suction end.

- Minimal energy consumption (4% or less)
- Hardened, adjustable cutter blades
- Minimize flow restrictions



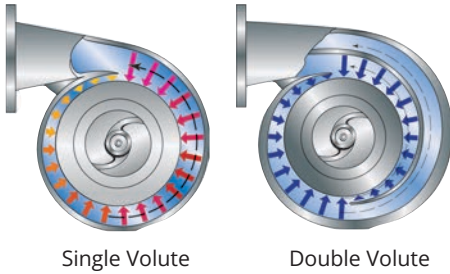
## WASTE WARRIOR CUTTER SEVERE CLOGGING

The scythe-like edge at the juncture of the suction pipe and volute provides a robust solution for preventing clogs caused by stringy materials from accumulating in the impeller area.

- Limited energy consumption (around 8%)
- Hardened cutter blades
- Insignificant flow restrictions

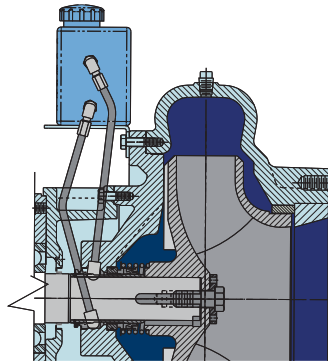


# CORNELL FEATURES & BENEFITS



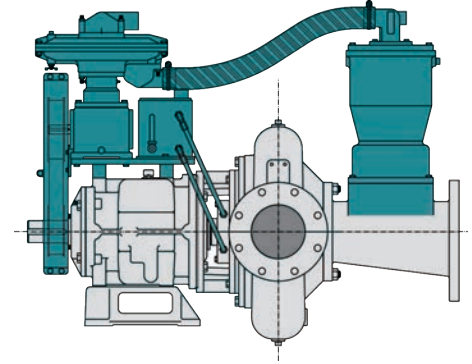
## DOUBLE VOLUTE DESIGN

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.



## 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.



## CD4MCu OPTIONS

CD4MCu is duplex stainless steel that uses a two-phase metallurgy process, different from the single-phase metallurgy process found in common stainless steel grades like 316. This process combines the corrosion resistance of 300-series stainless steel with the strength and hardness of 400-series stainless steel. This results in stainless steel with equivalent or superior corrosion resistance to 316 SS but with twice the yield strength. CD4MCu allows pumps to be used in more abrasive applications with enhanced resistance to corrosive cracking and pitting. Cornell has made CD4MCu castings available in-store for 23 of its most popular pump models, which reduces production time. We can now build a CD4MCu pump in about one to two weeks.

## CD4MCu BENEFITS

- Corrosion and pitting resistance
- Higher strength than standard grades of stainless steel
- Improved ductility and weldability
- Better resistance to embrittlement

## CORNELL PUMP BENEFITS

- Fully automated priming and self-priming, dry-run pumps
- Handles air/liquid mixtures with ease
- Patented Cycloseal®, Redi-Prime®, and Run-Dry™ options
- Cornell Competitive Advantage: Patented Engineering Features

## FEATURES



CLEAN STEEL



BRINELL HARDNESS  
UP TO 285



INDUSTRY LEADING  
TWO YEAR WARRANTY

# N SERIES PUMPS

## SOLIDS HANDLING PUMP MODELS

MODEL	DISCHARGE SIZE	IMPELLER DIA.	MAXCAPACITY	MAX SOLIDS	MAX HEAD	RPM
3NLT	3"	6.50"	400 GPM	2.00"	54'	2000
3NNTL	3"	8.25"	1100 GPM	2.00"	155'	2500
4414T	4"	14.00"	1600 GPM	3.00"	430'	2300
4514T	4"	14.00"	1950 GPM	3.00"	395'	2300
4NHTA	4"	12.00"	1400 GPM	3.00"	225'	2000
4NHTB	4"	17.50"	1800 GPM	3.00"	470'	2000
4NHTB19	4"	19.50"	2400 GPM	2.00"	650'	2100
4NNT	4"	10.09"	1400 GPM	3.00"	150'	2000
4NNTL	4"	8.25"	1450 GPM	3.00"	165'	2500
6NHT	6"	14.09"	2650 GPM	4.00"	100'	1200
6NHTA	6"	14.00"	2800 GPM	3.00"	295'	2000
6NHTB	6"	17.50"	4250 GPM	3.38"	400'	1900
6NHTB19	6"	19.50"	3500 GPM	2.00"	520'	2100
6NHTH	6"	14.00"	2600 GPM	4.00"	170'	1500
6NNT	6"	10.09"	2700 GPM	3.00"	150'	2100
6NNTL	6"	8.25"	2250 GPM	3.00"	125'	2400
8NHG19	8"	19.50"	6500 GPM	2.44"	625'	2150
8NHG22	8"	21.95"	7800 GPM	3.00"	615'	1770
8NHGA	8"	17.50"	7000 GPM	4.00"	360'	1800
8NHTA	8"	17.50"	5000 GPM	3.38"	400'	1900
8NHTH	8"	21.95"	7500 GPM	4.00"	460'	1800
8NHTR	8"	16.44"	5700 GPM	5.00"	310'	1800
8NNT	8"	14.00"	4500 GPM	3.38"	255'	1900
8NNTL	8"	11.75"	3800 GPM	2.88"	145'	1800
10NHTA	10"	21.88"	6400 GPM	4.25"	245'	1200
10NHTB	10"	19.50"	8000 GPM	4.75"	195'	1200

MODEL	DISCHARGE SIZE	IMPELLER DIA.	MAXCAPACITY	MAX SOLIDS	MAX HEAD	RPM
10NHTBH	10"	21.88"	7300 GPM	4.75"	255'	1200
10NNT	10"	17.50"	7700 GPM	3.38"	355'	1800
12NHG28	12"	28.00"	12000 GPM	3.20"	410'	1200
12NHTB	12"	19.50"	7800 GPM	4.75"	175'	1200
12NHTL	12"	14.00"	5200 GPM	4.25"	140'	1500
12NHTM	12"	17.50"	5600 GPM	4.25"	140'	1200
12NNTF	12"	14.00"	8500 GPM	3.00"	195'	1800
12NNT	12"	14.00"	6000 GPM	4.00"	225'	1900
14NHG	14"	17.50"	12000 GPM	4.00"	210'	1500
14NHG28	14"	28.00"	15000 GPM	4.25"	420'	1200
14NHG34	14"	34.00"	18000 GPM	4.25"	660'	1200
14NHGA	14"	19.50"	11000 GPM	4.00"	165'	1200
14NHGH	14"	19.50"	13500 GPM	4.25"	180'	1200
16NHG22	16"	21.95"	16500 GPM	4.50"	265'	1200
16NHG26	16"	26.00"	18000 GPM	4.50"	170'	700
16NHGH	16"	19.50"	13500 GPM	4.25"	175'	1200
16NHT32	16"	32.00"	20500 GPM	6.40"	200'	900
18NH34	18"	32.00"	17000 GPM	4.50"	320'	900
18NHFL	18"	26.50"	23000 GPM	5.00"	190'	890
18NHG	18"	28.00"	20000 GPM	5.00"	220'	900
18NHG22	18"	21.95"	15000 GPM	4.50"	205'	1200
18NHG34	18"	34.00"	24000 GPM	4.50"	320'	900
20NHFL	20"	28.00"	24000 GPM	5.00"	135'	750
20NHFL	20"	25.50"	24000 GPM	5.00"	190'	990
24NNG	24"	28.00"	32000 GPM	5.25"	135'	750

## CORNELL SOLIDS HANDLING PUMP MODEL DESIGNATIONS

example: 6NHTA

DISCHARGE SIZE (IN INCHES)	PUMP SERIES (NN OR NH)	IMPELLER TYPE
6	NH	TA

### IMPELLER TYPES IN MODEL DESIGNATIONS:

T: 2 port, enclosed	TR: 2 port enclosed, hybrid	DH: Delta high head, vortex
TA: 2 port enclosed, initial version	G: 3 port enclosed	HM: Semi-open
TB: 2 port enclosed, high head	F: 4 port enclosed	P/PP: Single port, enclosed
TL: 2 port enclosed, low Head	DL: Delta low head, vortex	C: Chopper

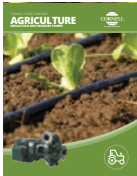
### ALTERNATE DESIGNATIONS:

example: 4414T

DISCHARGE SIZE (IN INCHES)	SUCTION SIZE (IN INCHES)	MAX. IMPELLER DIA.	IMPELLER TYPE
4	4	14	T

CORNELL PUMP COMPANY

# MARKET & PRODUCT LINE



AGRICULTURE



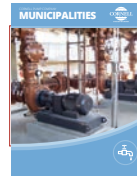
FOOD PROCESS



INDUSTRIAL



MINING



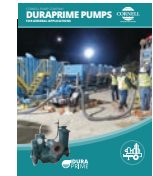
MUNICIPAL



WATER  
TRANSFER



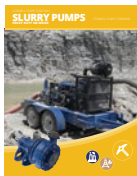
REFRIGERATION



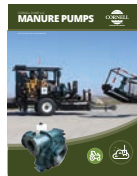
CONSTRUCTION



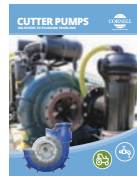
SLURRY



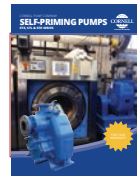
SLURRY SM



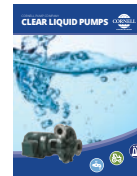
MANURE



CUTTERS



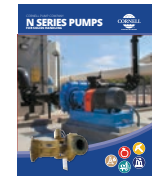
SELF PRIMING



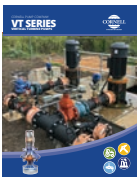
CLEAR LIQUIDS



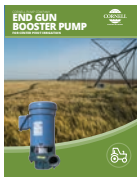
MX SERIES



N SERIES



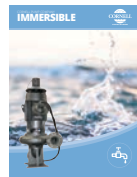
CYCLONE™



EDGE™



HYDRAULIC  
SUBS



IMMERSIBLE



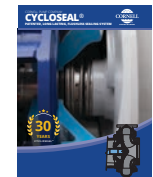
CD4MCU



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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