CORNELL PUMP COMPANY

# CUTTER PUMPS

## PERFORMANCE CURVES FOR BLADE CUTTER PUMPS

CORNELL®
EFFICIENT BY DESIGN

# CORNELL PUMP COMPANY

## WASTEWATER RAGGING AND FOULING

More than six billion flushable toilet wipes, plus over one billion floor and counter cleaning wipes, mingle with countless paper towels, baby wipes, feminine hygiene products, grease, and other coagulants in sewers worldwide EVERY YEAR!

A problem that didn't exist a decade ago has 'wiped out' many water utilities' maintenance and repair budgets. Instead of building infrastructure, wastewater engineers have been cleaning out pump stations up to three times a day, auguring out force mains, and picking away at so-called 'fatbergs' the size of buses just to keep systems running.

It's a problem—a big problem, and one that must be addressed to keep sanitation functioning around the world.

# WHAT SETS CORNELL PUMPS APART

Since 1946, Cornell Pump has been a trusted manufacturer of durable and high-efficiency pumps for the industrial market, delivering unparalleled value to our customers. Our clear liquid, solids handling, and grit/slurry pumps are engineered to meet the demanding requirements of industrial applications, providing unparalleled reliability and interchangeability. With a broad range of pump models and configurations, we can easily integrate our pumps into your existing systems. Moreover, we offer custom system design to meet your specific needs. Our team of technical and engineering experts is among the best in the industry and can provide innovative pump solutions of the highest quality.

### PUMPS DESIGNED FOR SPECIFIC JOBS

Our team of expert engineers design 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.

### A WIDE VARIETY OF SIZES AND CONFIGURATIONS

Models range in size from 1" to 24" 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®.

### ROBUST CONSTRUCTION

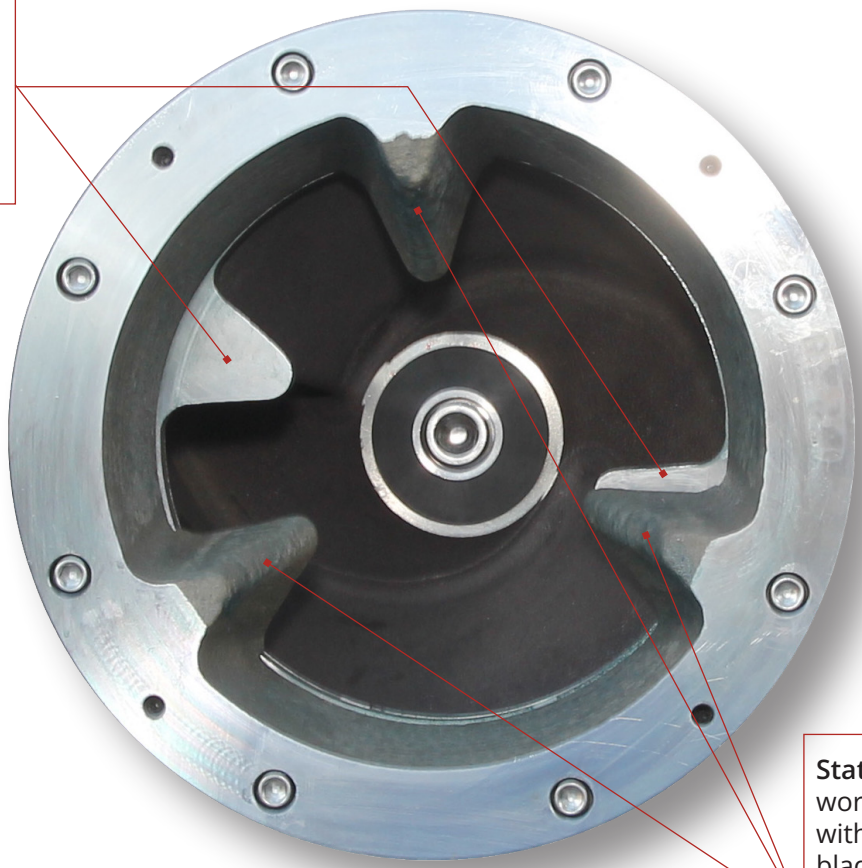
Cornell pumps are built using superior materials selected for their suitability to each pump's intended application. Heavier casting walls, thicker shafts, and fully-machined impellers are part of what make Cornell pumps more rugged and durable than other pumps.

## WATCH A VIDEO

Use your smart phones QR reader to see a short video about the auger cutter solution for the SW Washington water district, or visit our website at
**http://www.cornellpump.com/support/success-stories/**

# CUTTER PUMP CURVES

**Rotating Cutters:** Spins with the impeller to create a cutting action against the stationary teeth.



**Stationary Cutters:** works in conjunction with the rotatiing blade for cutting action at the pump suction end.

## BLADE CUTTER FEATURES

- 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
- Retrofitable

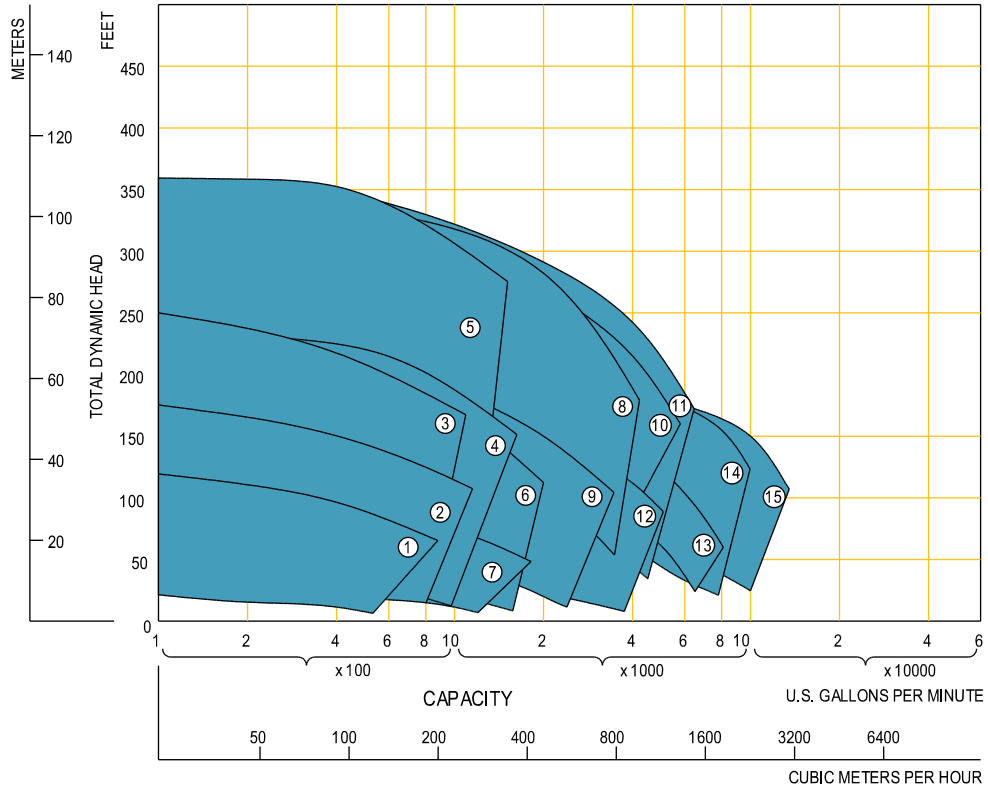
## PUMPAGE REQUIREMENTS FOR OPTIMAL PERFORMANCE

- Pump operating speed is important to cutting efficiency. Speeds of at least 1200 RPM required for operation; 1800 RPM preferred.
- Recommended fluid velocity is 5 to 7 feet per second. Fluid velocity on the inlet piping system needs to be high enough to carry solids into the suction end; pump size and operating speed are critical to proper velocity.
- Solid to liquid ratio can affect fluid velocity and operation of pump. When selecting a pump model, it is important to take into account the volume of solids in the pumpage.

## WHY BUY A CUTTER?

- MINIMAL INCREASE TO COST OF OPERATIONS
- LABOR SAVINGS BY REDUCING CLEAN OUT EVENTS
- TWO-YEAR WARRANTY
- IMPROVE EFFICIENCY BY REDUCING DOWN-TIME & PERIODS OF LOW FLOW

# CUTTER PUMP CURVES




1. 4NNT*
2. 4NHTA
3. 4414T*
4. 4514T
5. 4NHTB
6. 6NHTA*
7. 6NNT*
8. 6NHTB* / 8NHTA*
9. 8NNT*
10. 8NHTR
11. 10NNT*
12. 12NNT*
13. 12NHTR*
14. 14NHG
15. 16NHG22

***THESE MODELS CAN BE ALTERNATELY FITTED WITH WASTE WARRIOR CUTTERS**

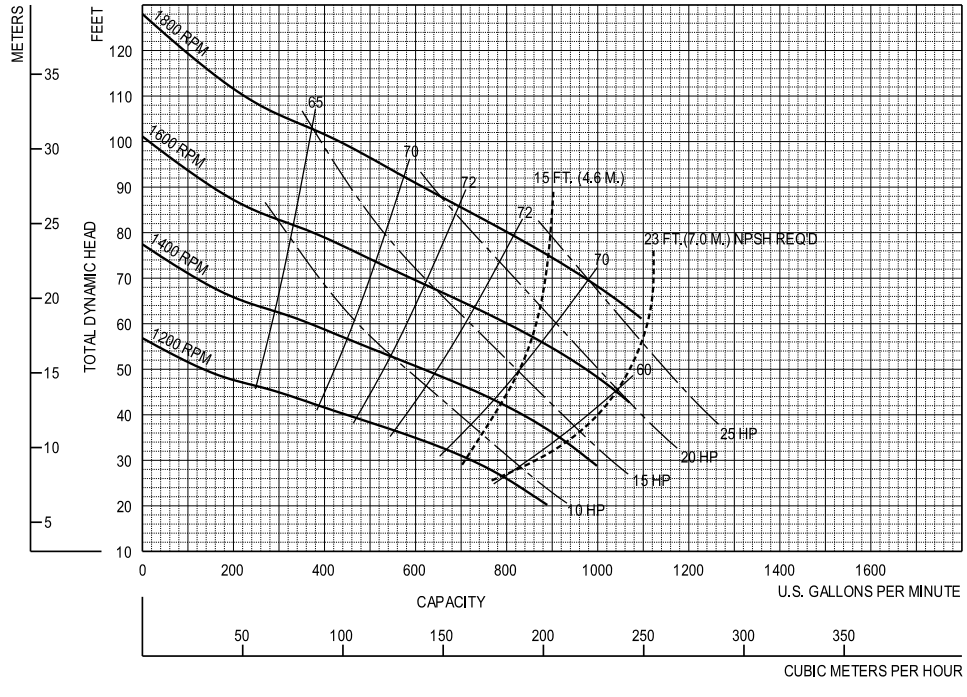
Feet x .305 = Meters
Inches x 25.4 = Millimeters
GPM x .227 = Cubic Meters/Hour
GPM x 3.785 = Liters/Minute
HP x .746 = KW

| Speed | Impeller Dia. | Style | Solids Dia. | $N_S$ | Suction | Discharge | No. vanes |
|---|---|---|---|---|---|---|---|
| VARIOUS | 10.09" | ENCLOSED | 3" | 1900 | 4" | 4" | 2 |

NEW PAGE

SINGLE VOLUTE

MOUNTING CONFIG.: CC, VM, F, VF, EM, VC




4NNT*

Performances shown are for cool water, close-coupled electric configuration with Cycloseal.® Other mounting configurations, seal arrangements or liquids may require horsepower and/or performance adjustments.

4NNTVAC

1/17/12

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Cornell Pump Company • Portland, Oregon

4NNT CUTTER - VARIOUS RPM
PRELIMINARY

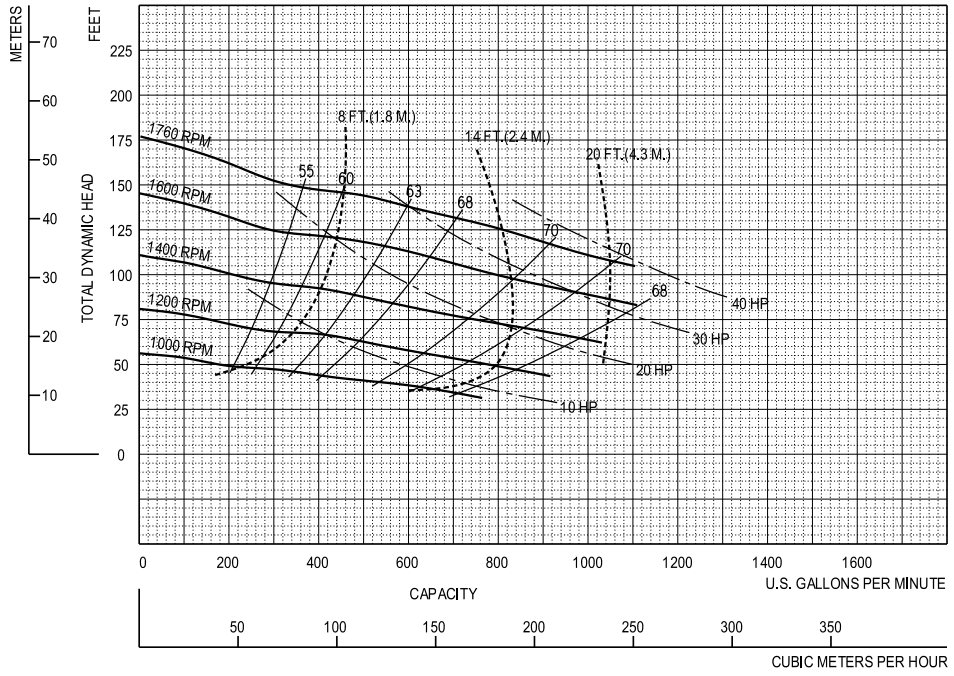
CONSULT ENGINEERING PRIOR TO MAKING PERFORMANCE SELECTIONS / *CAN BE FITTED WITH WASTE WARRIOR OR BLADE CUTTERS

# CUTTER PUMP CURVES

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

| Speed | Impeller Dia. | Style | Solids Dia. | $N_S$ | Suction | Discharge | No. vanes |
|---|---|---|---|---|---|---|---|
| VARIOUS | 12" | ENCLOSED | 3' | 1540 | 4" | 4" | 2 |

SINGLE VOLUTE — MOUNTING CONFIG.: CC, VM, F, VF, EM, VC




Performances shown are for cool water, frame mount configuration with Cydoseal.® Other mounting configurations, seal arrangements or liquids may require horsepower and/or performance adjustments.

10/30/14

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4NHTA CUTTER - VARIOUS RPM

NEW PAGE

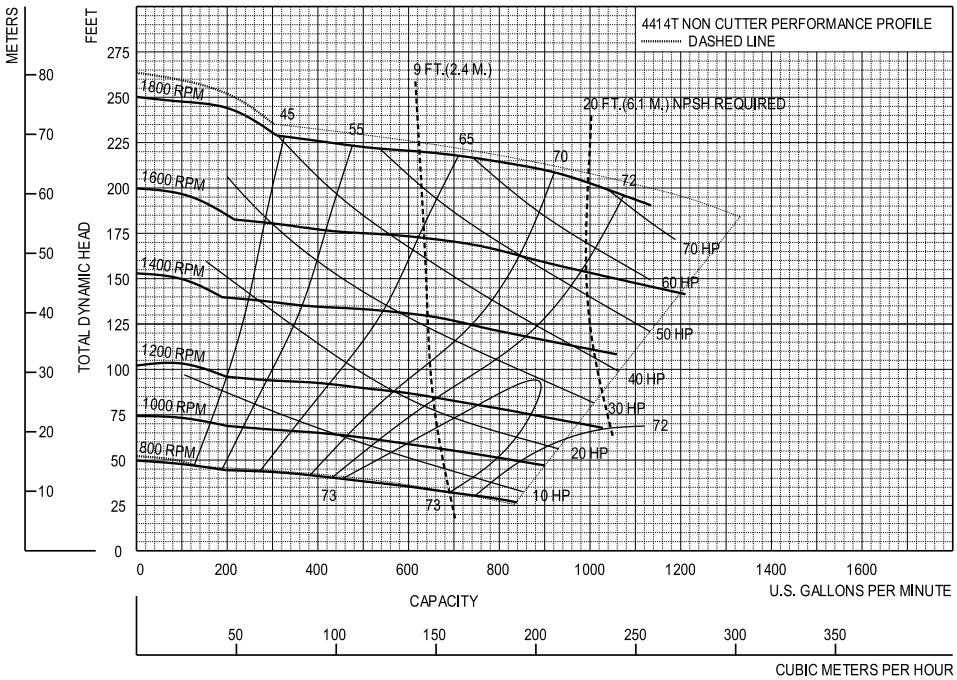
4NHTA

4NHTAVAC

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

| Speed | Impeller Dia. | Style | Solids Dia. | $N_S$ | Suction | Discharge | No. vanes |
|---|---|---|---|---|---|---|---|
| VARIOUS | 14" | ENCLOSED | 3' | 1310 | 4" | 4" | 2 |

SINGLE VOLUTE — MOUNTING CONFIG.: CC, VM, F, VF, EM, VC




Performances shown are for cool water, close-coupled electric configuration with Cydoseal.® Other mounting configurations, seal arrangements or liquids may require horsepower and/or performance adjustments.

4/2/12

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4414T CUTTER - VARIOUS RPM

NEW PAGE

4414T*

4414TVAC

CONSULT ENGINEERING PRIOR TO MAKING PERFORMANCE SELECTIONS / *CAN BE FITTED WITH WASTE WARRIOR OR BLADE CUTTERS

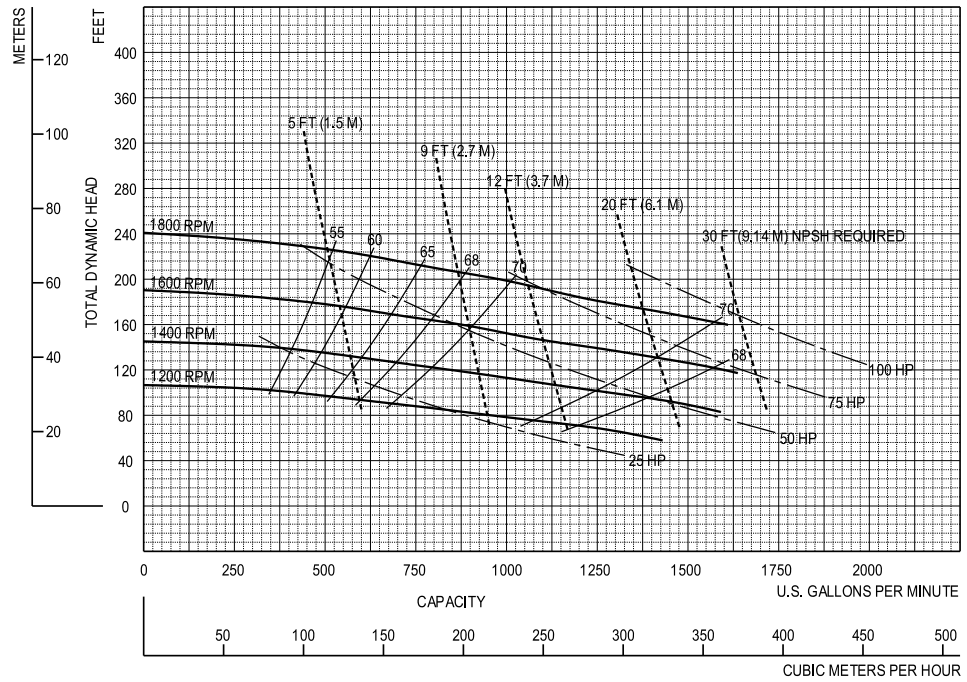
# CUTTER PUMP CURVES

## 4514T

| Speed | Impeller Dia. | Style | Solids Dia. | $N_S$ | Suction | Discharge | No. vanes |
|---|---|---|---|---|---|---|---|
| VARIOUS | 14" | ENCLOSED | 3" | 1350 | 5" | 4" | 2 |

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

SINGLE VOLUTE — MOUNTING CONFIG.: CC, VM, F, VF, EM, VC




Performances shown are for cool water, close-coupled electric configuration with Cyclo-seal.® Other mounting configurations, seal arrangements or liquids may require horsepower and/or performance adjustments.

1/11/12

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4514T CUTTER - VARIOUS RPM
PRELIMINARY

NEW PAGE

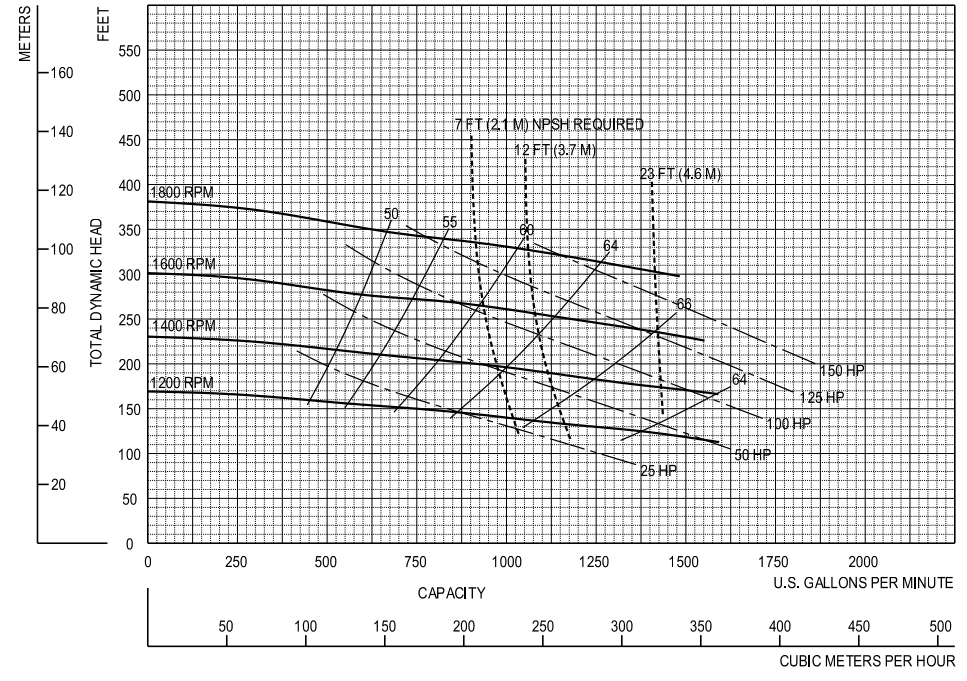
4514TVAC

## 4NHTB

| Speed | Impeller Dia. | Style | Solids Dia. | $N_S$ | Suction | Discharge | No. vanes |
|---|---|---|---|---|---|---|---|
| VARIOUS | 17.5" | ENCLOSED | 3" | 980 | 5" | 4" | 2 |

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

SINGLE VOLUTE — MOUNTING CONFIG.: CC, VM, F, VF, EM, VC




Performances shown are for cool water, frame mounted configuration with Cyclo-seal.® Other liquids, seal arrangements or mounting configurations may require performance adjustments.

1/11/12

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4NHTB CUTTER - VARIOUS RPM

NEW PAGE

4NHTBVAC

CONSULT ENGINEERING PRIOR TO MAKING PERFORMANCE SELECTIONS / *CAN BE FITTED WITH WASTE WARRIOR OR BLADE CUTTERS

# CUTTER PUMP CURVES

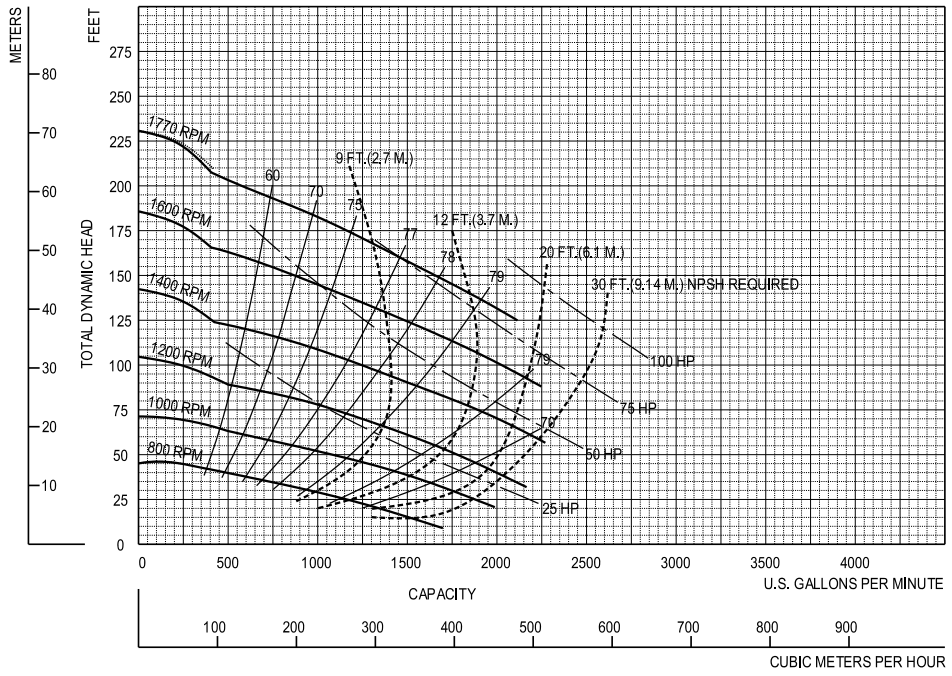
## 6NHTA*

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

| Speed | Impeller Dia. | Style | Solids Dia. | $N_S$ | Suction | Discharge | No. vanes |
|---|---|---|---|---|---|---|---|
| VARIOUS | 14" | ENCLOSED | 3" | 2120 | 6" | 6" | 2 |

NEW PAGE

SINGLE VOLUTE MOUNTING CONFIG.: CC, VM, F, VF, EM, VC




Performances shown are for cool water, close-coupled electric configuration with Cydoseal.® Other mounting configurations, seal arrangements or liquids may require horsepower and/or performance adjustments.

1/09/12

6NHTAVAC

Cornell Pump Company • Portland, Oregon

6NHTA CUTTER - VARIOUS RPM
PRELIMINARY

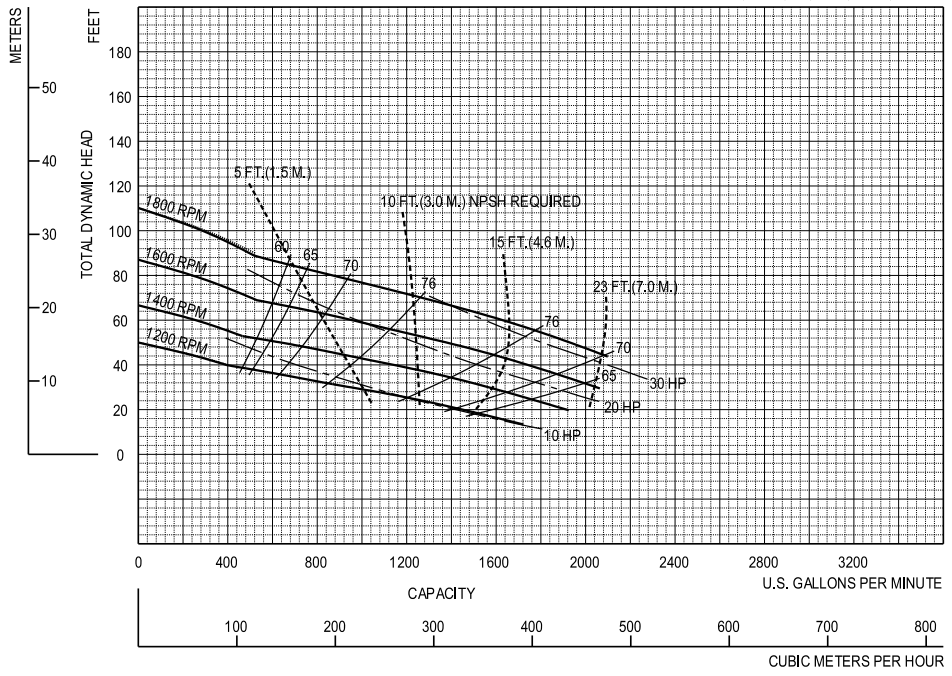
## 6NNT*

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

| Speed | Impeller Dia. | Style | Solids Dia. | $N_S$ | Suction | Discharge | No. vanes |
|---|---|---|---|---|---|---|---|
| VARIOUS | 10.09" | ENCLOSED | 3" | 3300 | 6" | 6" | 2 |

NEW PAGE

SINGLE VOLUTE MOUNTING CONFIG.: CC, VM, F, VF, EM, VC

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1/11/12

Cornell Pump Company • Portland, Oregon

6NNT CUTTER - VARIOUS RPM
PRELIMINARY

CONSULT ENGINEERING PRIOR TO MAKING PERFORMANCE SELECTIONS / *CAN BE FITTED WITH WASTE WARRIOR OR BLADE CUTTERS

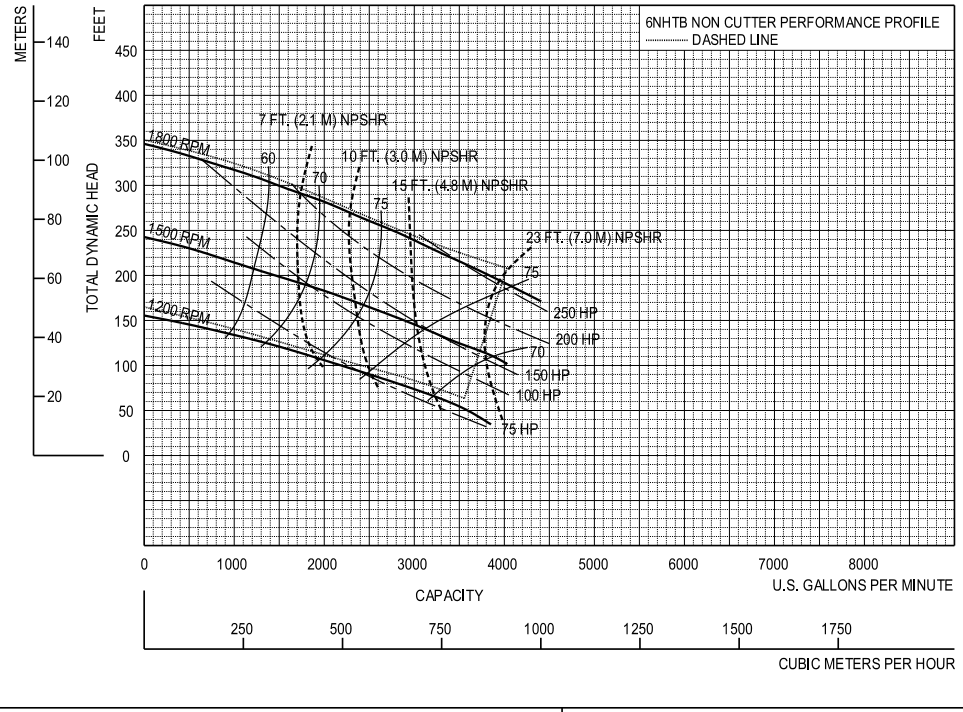
# CUTTER PUMP CURVES

## 6NHTB*

| Speed | Impeller Dia. | Style | Solids Dia. | $N_S$ | Suction | Discharge | No. vanes |
|---|---|---|---|---|---|---|---|
| VARIOUS | 17.50" | ENCLOSED | 3.38" | 1749 | 10" | 6" | 2 |

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

SINGLE VOLUTE — MOUNTING CONFIG.: CC, VM, F, VF, EM, VC




Performances shown are for cool water, close-coupled electric configuration with Cycloseal ®. Other mounting configurations, seal arrangements or liquids may require horsepower and/or performance adjustments.

3/29/12

NEW PAGE

6NHTBVAC

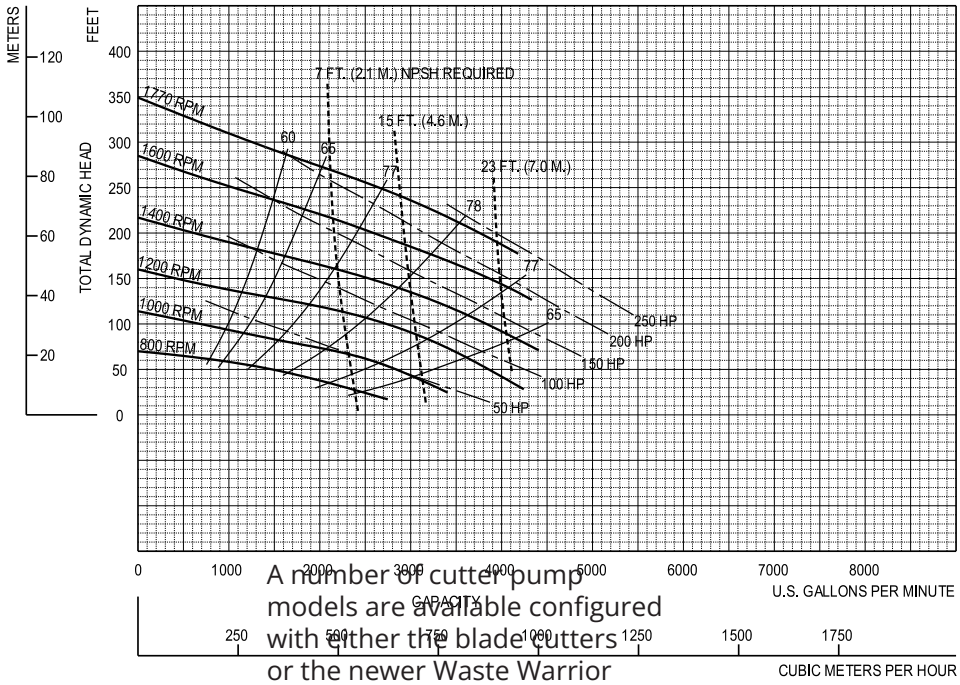
CORNELL Efficient by Design — Cornell Pump Company • Portland, Oregon — 6NHTB CUTTER - VARIOUS RPM

## 8NHTA*

| Speed | Impeller Dia. | Style | Solids Dia. | $N_S$ | Suction | Discharge | No. vanes |
|---|---|---|---|---|---|---|---|
| VARIOUS | 17.5" | ENCLOSED | 3.38" | 1760 | 10" | 8" | 2 |

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

DOUBLE VOLUTE — MOUNTING CONFIG.: CC, VM, F, VF, EM, VC




Performances shown are for cool water, close-coupled electric configuration with Cycloseal ®. Other mounting configurations, seal arrangements or liquids may require horsepower and/or performance adjustments.

1/06/12

NEW PAGE

CORNELL Efficient by Design — Cornell Pump Company • Portland, Oregon — 8NHTA CUTTER - VARIOUS RPM PRELIMINARY

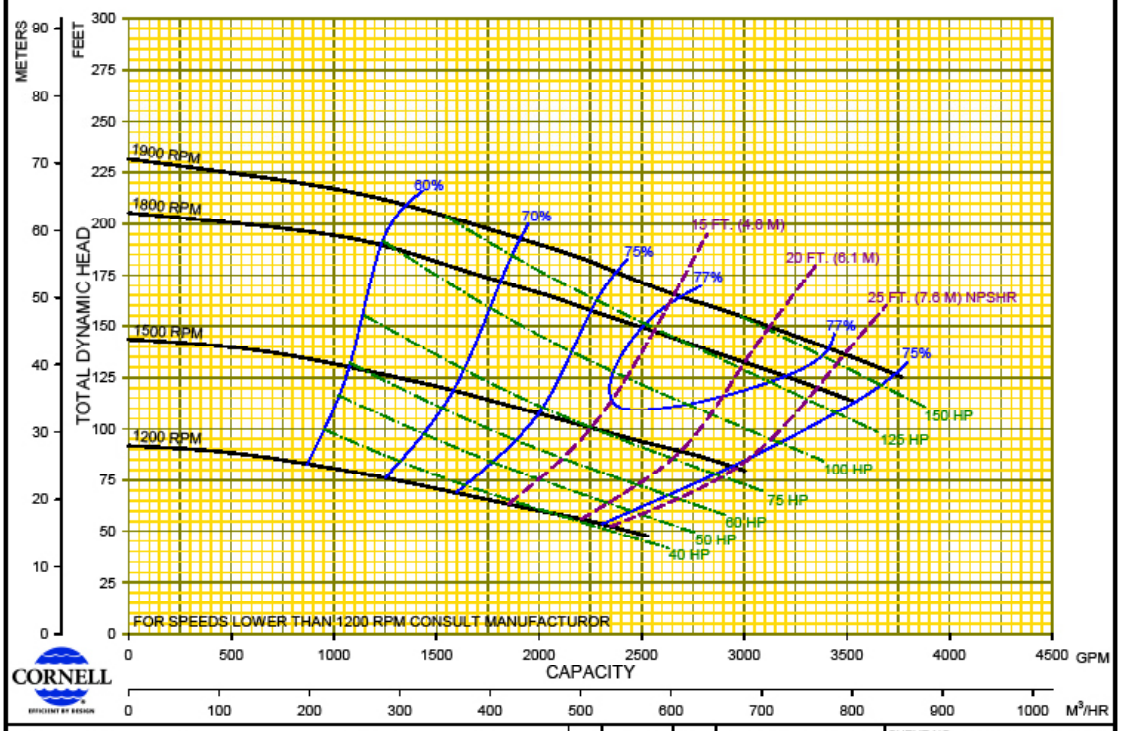
A number of cutter pump models are available configured with either the blade cutters or the newer Waste Warrior cutters. Waste Warrior models are designated with a "W" in the model name, where the same pump fitted with blade cutters has an "T". If corrosion or ragging solids change, different

# CUTTER PUMP CURVES

## 8NNT*

Performances shown are for S.G. 1.0 60°F water, close-coupled configuration. Other mounting styles or S.G. may require curve adjustments.

| Speed | Impeller Dia. | Style | Volute | Solids Dia. | $N_S$ | Suction | Discharge | No. Vanes |
|---|---|---|---|---|---|---|---|---|
| VARIOUS | 14.00" | ENCLOSED | SINGLE | 3.38" | 2450 | 8" | 8" | 2 |




CORNELL

| Cornell Pump Company • Clackamas, Oregon | -- | - -/- -/- - | -- | MODEL : 8NNT CUTTER | CURVE NO: 8NNTVAC3 |
|---|---|---|---|---|---|
| | 00 | 06/16/15 | CTG | TYPE :SOLIDS HANDLING | |

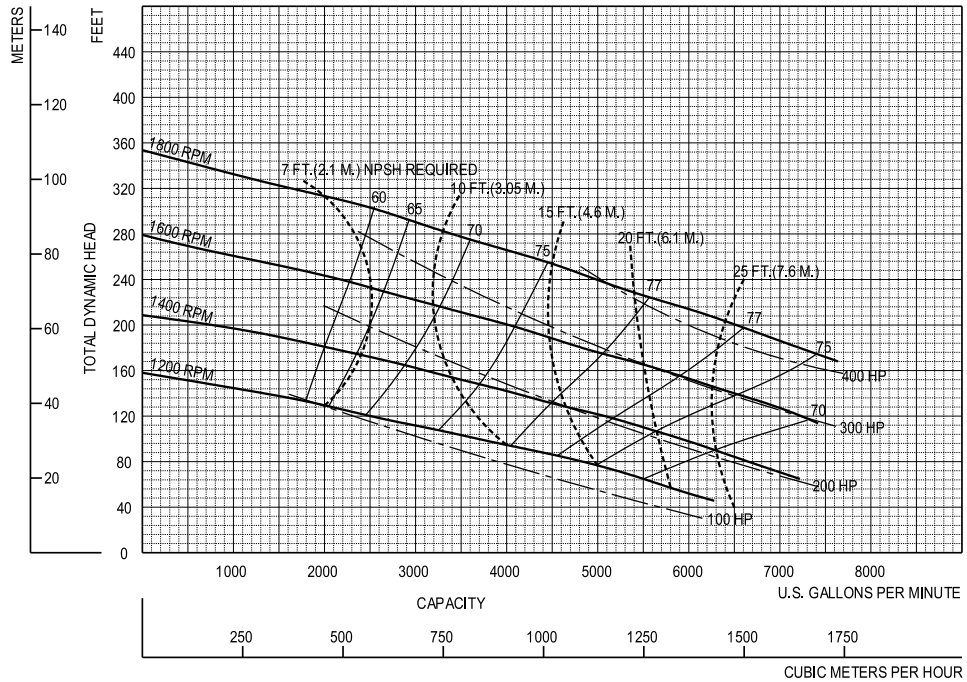
## 10NNT*

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

| Speed | Impeller Dia. | Style | Solids Dia. | $N_S$ | Suction | Discharge | No. vanes |
|---|---|---|---|---|---|---|---|
| VARIOUS | 17.5" | ENCLOSED | 3.38" | 2750 | 10" | 10" | 2 |

NEW PAGE

SINGLE VOLUTE MOUNTING CONFIG.: F, VF, EM, VC




Performances shown are for cool water, frame mounted configuration with Cydoseal®. Other liquids, seal arrangements or mounting configurations may require performance adjustments.

2/28/14

10NNTVAC

| Cornell Pump Company • Portland, Oregon | 10NNT CUTTER - VARIOUS RPM |
|---|---|

CONSULT ENGINEERING PRIOR TO MAKING PERFORMANCE SELECTIONS / *CAN BE FITTED WITH WASTE WARRIOR OR BLADE CUTTERS

# CUTTER PUMP CURVES

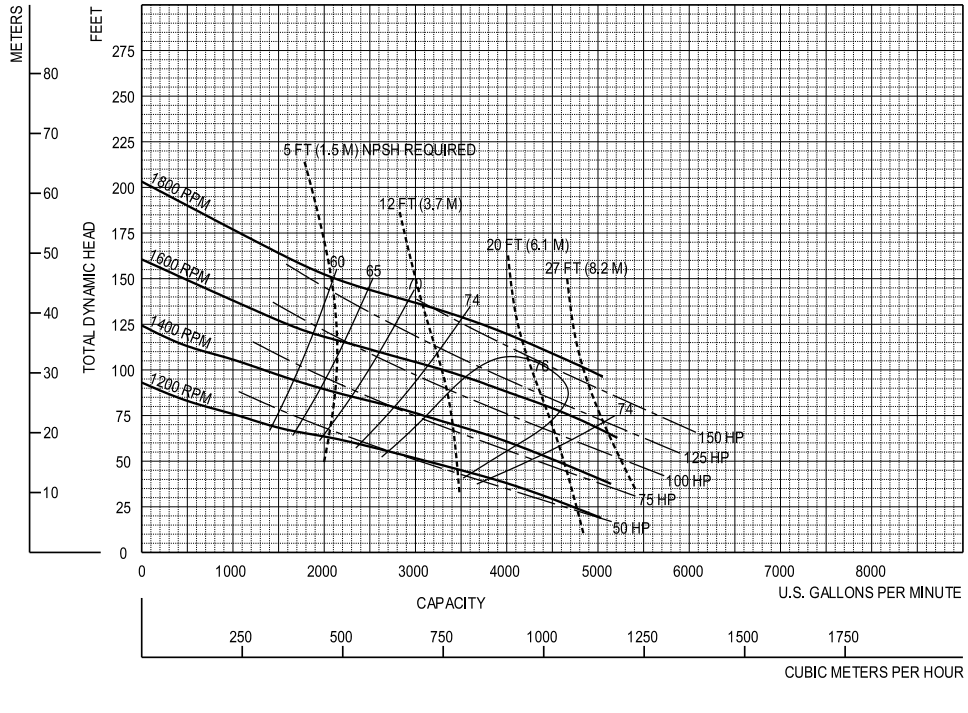
## 12NNT*

| Speed | Impeller Dia. | Style | Solids Dia. | $N_S$ | Suction | Discharge | No. vanes |
|---|---|---|---|---|---|---|---|
| VARIOUS | 14"@ 0° | ENCLOSED | 4" | 3540 | 10" | 12" | 2 |

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

SINGLE VOLUTE

MOUNTING CONFIG.: CC, VM, F, VF, EM, VC




Performances shown are for cool water, close-coupled electric configuration with Cycloseal ®. Other mounting configurations, seal arrangements or liquids may require horsepower and/or performance adjustments.

NEW PAGE

8NNTVAC

4/28/13

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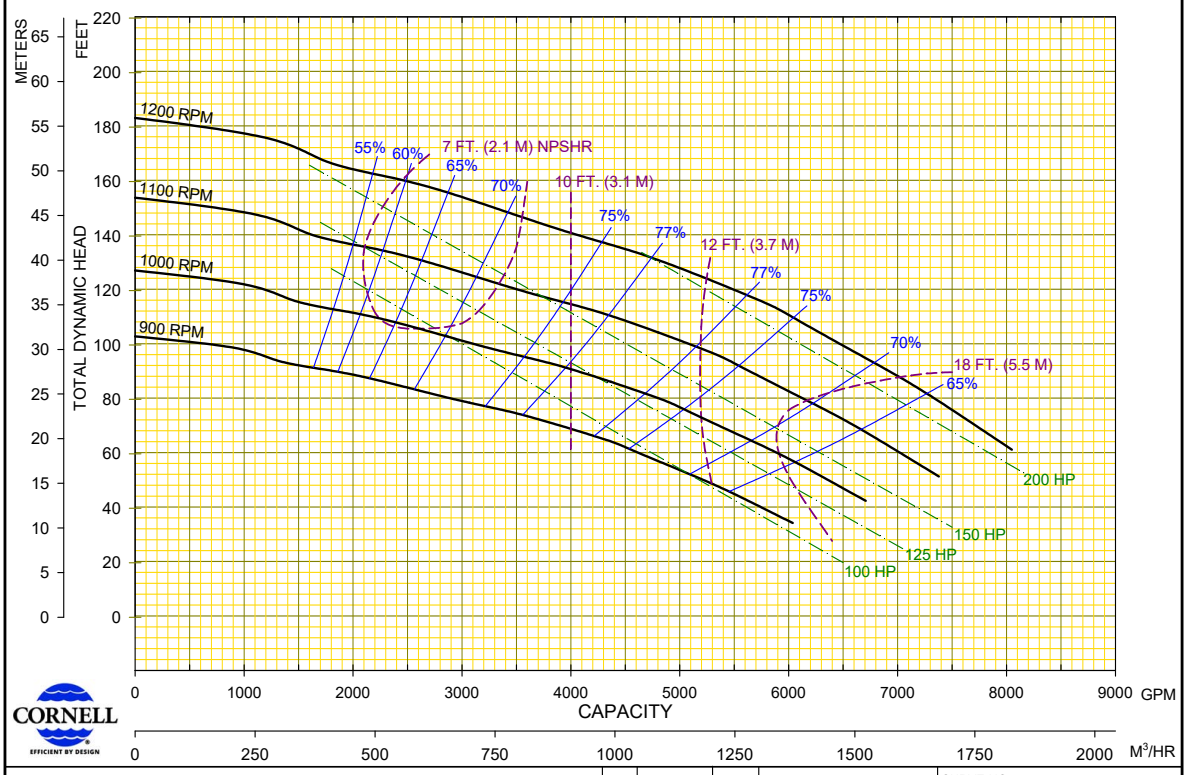
Cornell Pump Company • Portland, Oregon

12NNT CUTTER - VARIOUS RPM
PRELIMINARY

## 12NHTR*

Performances shown are for S.G. 1.0 60°F water, frame mounted configuration with cycloseal. Other mounting styles or S.G. may require curve adjustments.

| Speed | Impeller Dia. | Style | Volute | Solids Dia. | $N_S$ | Suction | Discharge | No. Vanes |
|---|---|---|---|---|---|---|---|---|
| VARIOIUS | 19.5 | ENCLOSED | SINGLE | 4.75" | 2600 | 12" | 12" | 2 |




CORNELL EFFICIENT BY DESIGN

Cornell Pump Company • Clackamas, Oregon

| | | |
|---|---|---|
| 01 | 08/15/14 | CTG |
| 00 | 06/16/14 | JG |

MODEL : 12NHTR
TYPE :CUTTER

CURVE NO: 12NHTRVAC

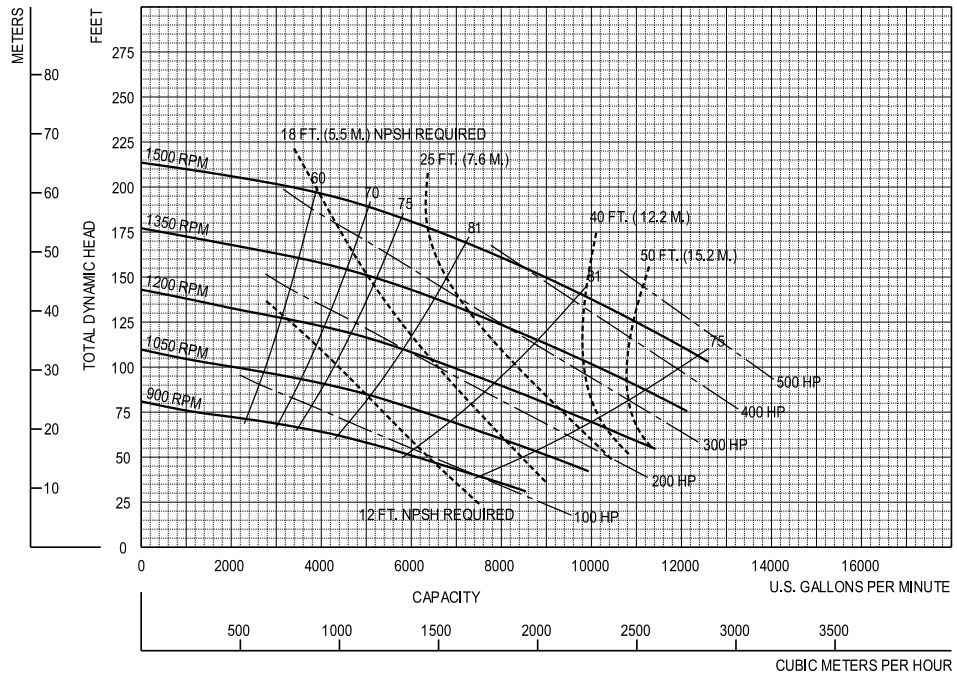
CONSULT ENGINEERING PRIOR TO MAKING PERFORMANCE SELECTIONS / *CAN BE FITTED WITH WASTE WARRIOR OR BLADE CUTTERS

# CUTTER PUMP CURVES

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

| Speed | Impeller Dia. | Style | Solids Dia. | $N_S$ | Suction | Discharge | No. vanes |
|---|---|---|---|---|---|---|---|
| VARIOUS | 17.5"-0° | ENCLOSED | 4" | 3250 | 12" | 14" | 3 |

SINGLE VOLUTE — MOUNTING CONFIG.: CC, VM, F, VF, EM, VC

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1/28/12

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14NHG CUTTER - VARIOUS RPM
PRELIMINARY

NEW PAGE

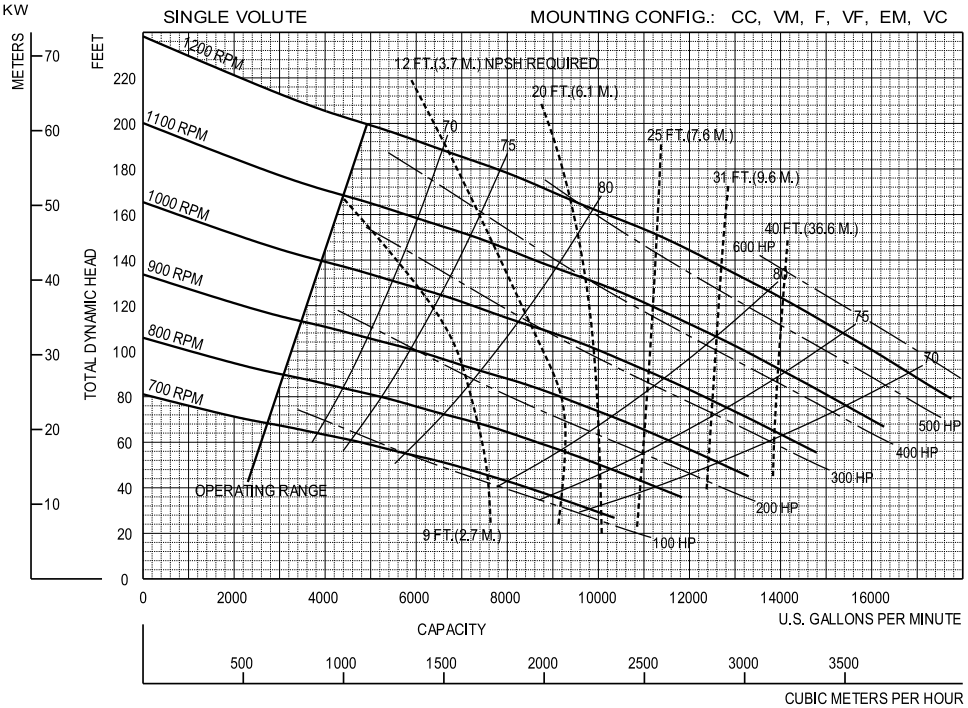
14NHG

14NHGVAC

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

| Speed | Impeller Dia. | Style | Solids Dia. | $N_S$ | Suction | Discharge | No. vanes |
|---|---|---|---|---|---|---|---|
| VARIOUS | 22" | ENCLOSED | 1.5" | 3300 | 16" | 16" | 3 |

SINGLE VOLUTE — MOUNTING CONFIG.: CC, VM, F, VF, EM, VC




Performances shown are for cool water, close-coupled electric configuration with Cydoseal.®
Other mounting configurations, seal arrangements or liquids may require horsepower and/or performance adjustments.

2/01/12

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16NHG22 CUTTER - VARIOUS RPM
PRELIMINARY

NEW PAGE

16NHG22

16NHG22VAC

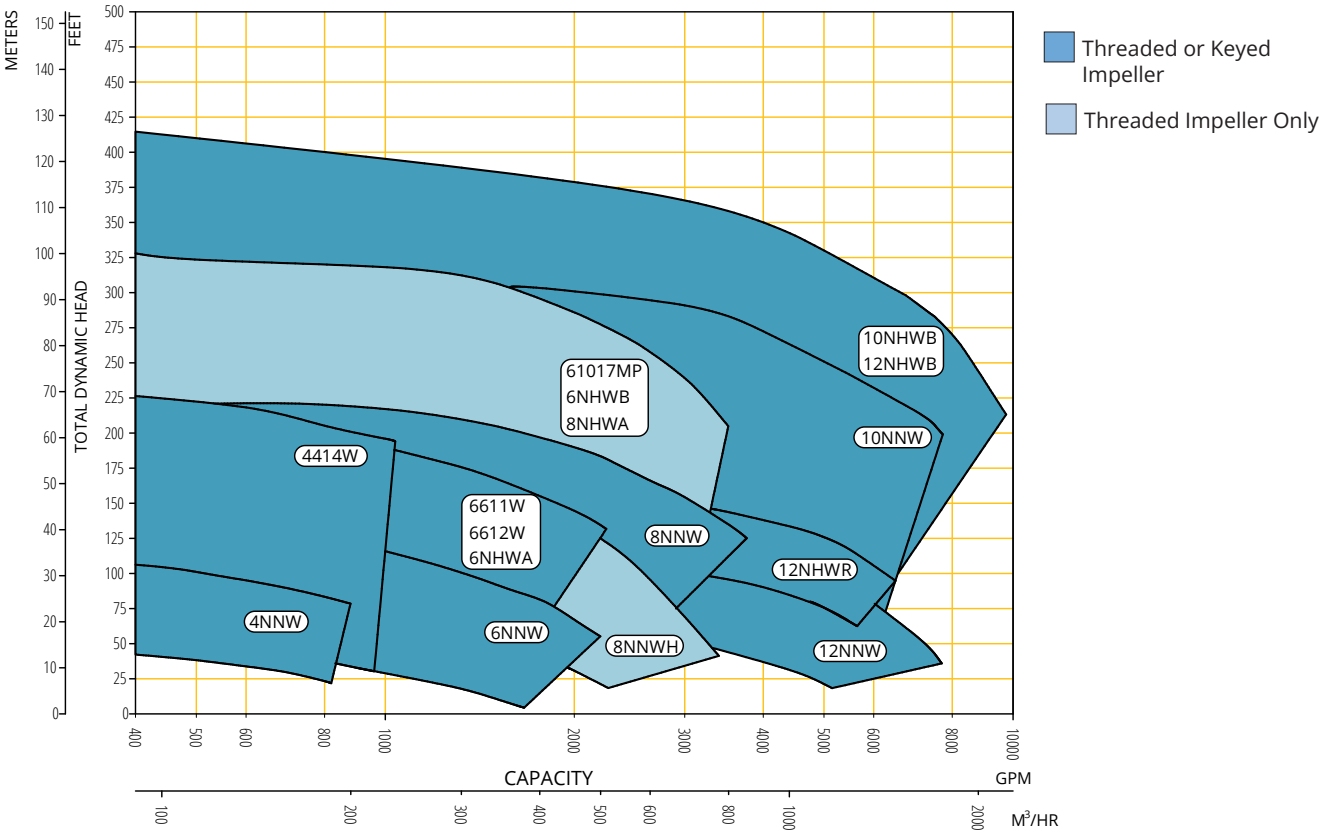
# CUTTER PUMP CURVES


## WASTE WARRIOR FOR TOUGH CUTTING APPLICATIONS

The aggressive cutting action of the Waste Warrior pump is owing to the scythe-like cutting edges that sweep the entire area where the suction pipe meets the volute.

- Handles most aggressive and troublesome clogs and ragging.
- Limited energy consumption (around 8%) over non-cutter models.
- Cutter made of hardened material.
- Insignificant flow restrictions.
- Does not change external pump dimensions.
- Retrofitable into pumps with blade cutters and pumps without cutters installed.*

**Some models retrofittable; contact Cornell for determination.*




CONSULT ENGINEERING PRIOR TO MAKING PERFORMANCE SELECTIONS / *CAN BE FITTED WITH WASTE WARRIOR OR BLADE CUTTERS

# CUTTER PUMP MODELS

## TWO CORNELL PUMP SOLUTIONS

In creating the cutter option to deal with wastewater ragging and fouling, a significant concern was to keep efficiency as high as possible. Two designs worked well—the blade cutter and auger cutter (later named the Waste Warrior). With a range of cutter solutions, users can choose the Cornell cutter that best suits their needs.

## INTERCHANGEABLE MODELS

Several cutter pump models are configured with either the blade cutters or the newer Waste Warrior cutters. Waste Warrior models are designated with a "W" in the model name. In contrast, the same pump fitted with blade cutters has a "T." If the concentration of ragging solids changes, different cutters can be fit without replacing the entire pump.

| COMPARISON OF INTERCHANGEABLE MODELS | | | | | | | |
|---|---|---|---|---|---|---|---|
| MODELS | | SPEED | MAX HEAD | MAX FLOW | BEP | BEP HEAD | BEP FLOW |
| 4" | 4NNT | 1800 RPM | 117' | 1150 GPM | 73% | 85' | 620 GPM |
| | 4NNW | | 125' | 875 GPM | 70% | 89' | 700 GPM |
| 4" | 4414T | 1800 RPM | 250' | 1140 GPM | 72% | 194' | 1100 GPM |
| | 4414W | | 247' | 1040 GPM | 68% | 200' | 900 GPM |
| 6" | 6NHTA | 1770 RPM | 230' | 2100 GPM | 79% | 125' | 2100 GPM |
| | 6NHWA | | 215' | 1850 GPM | 73% | 152' | 1587 GPM |
| 6" | 6NHTB | 1800 RPM | 350' | 4400 GPM | 75% | 222' | 3350 GPM |
| | 6NHWB | | 350' | 3250 GPM | 72% | 237' | 3050 GPM |
| 6" | 6NNT | 1800 RPM | 110' | 2100 GPM | 76% | 63' | 1520 GPM |
| | 6NNW | | 147' | 2125 GPM | 72% | 77' | 1225 GPM |
| 8" | 8NHTA | 1770 RPM | 350' | 4200 GPM | 78% | 210' | 3550 GPM |
| | 8NHWA | | 350' | 3250 GPM | 72% | 237' | 3050 GPM |
| 8" | 8NNT | 1800 RPM | 235' | 3750 GPM | 77% | 132' | 2950 GPM |
| | 8NNW | | 205' | 3550 GPM | 77% | 132' | 2850 GPM |
| 10" | 10NNT | 1800 RPM | 352' | 7900 GPM | 77% | 212' | 6100 GPM |
| | 10NNW | | 320' | 7700 GPM | 73% | 216' | 7000 GPM |
| 12" | 12NHTR | 1200 RPM | 184' | 8000 GPM | 77% | 125' | 5150 GPM |
| | 12NHWR | | 184' | 6500 GPM | 77% | 124' | 5150 GPM |
| 12" | 12NNT | 1800 RPM | 203' | 5100 GPM | 74% | 109' | 4500 GPM |
| | 12NNW | | 176' | 7700 GPM | 73% | 109' | 4650 GPM |

# CUTTER PUMP CURVES

## CUTTER BLADES SAVE THOUSANDS IN SOUTHERN CALIFORNIA

*The following is a testimonial from a Southern California water district's experience with Cornell's Cutter pumps.*

"The water district replaced another manufacturer's pump with a Cornell 8NHTA cutter pump. After the installation of this new pump, the Maintenance Superintendent went to the station to give it a real test by cleaning the wet well. He indicated that this wet well was very dirty, with a large blanket of rags and trash in which he intends to run through this pump for this test, and to confirm that the pump can be used to clean the wet well on a routine basis. He had the Collections Crew stand by with wash water to wash down the wet well as he pumped this debris through the pump. According to his staff, there were even items such as large plastic sports drink bottles that were running though the pump.

According to the superintendent, the pump never choked, or made any indication of exertion. After the wet well was fully cleaned, his staff opened a volute inspection port to inspect the pump. It was clean and had no debris whatsoever in the impeller or volute.

Needless to say, he was very happy with this progress. So happy they are considering installing new or modifying existing pumps to have at least one cutter pump per station."

~Cornell Distributor

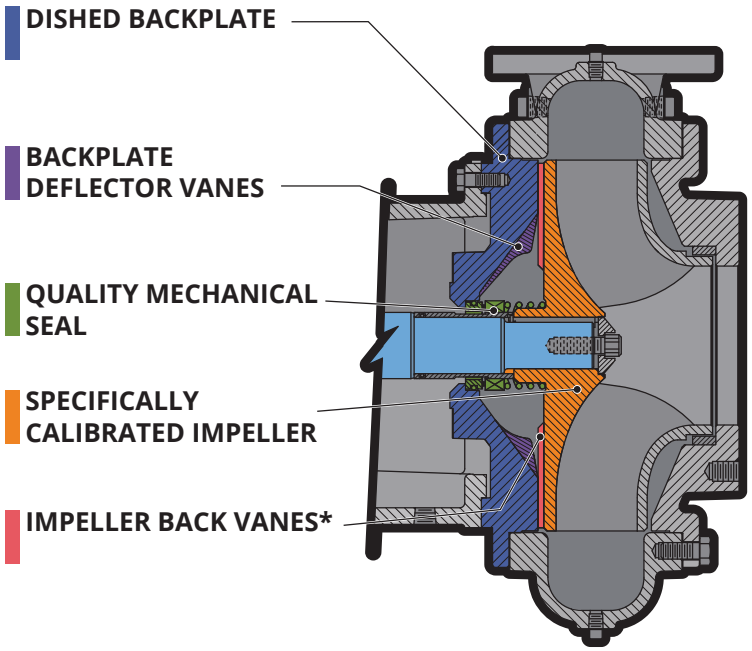
### WHAT COULD YOU SAVE WITH CUTTERS?

**A Southern California district estimated they saved about $31,000 per year with the cutters, while a Southern Washington district figured they were saving more than $41,000 per year between personnel and electricity costs. Most installations save thousands of dollars a year in staff time.**

**Cost Savings Example:**

| | |
|---|---|
| AVERAGE TIME PER EVENT (two workers for three hours) | 6 hours |
| COST PER MAN HOUR | $50 |
| TOTAL DIRECT COST PER EVENT | $300 |
| EVENTS PER WEEK: | 2 |
| **TOTAL ANNUAL DIRECT EXPENSE** | **$31,200** |
| **TOTAL MAN HOURS SAVED THAT CAN BE USED MAINTAINING OTHER ITEMS** | **624 hours annually** |

# CUTTER PUMP CURVES




## CYCLOSEAL® — THE SEALING SYSTEM INTEGRAL TO CORNELL PUMPS

Cornell's manure pumps come equipped with the patented Cycloseal sealing system, which leverages cyclonic action to extract solids and abrasive substances from the seal area while simultaneously purging air and gas pockets. This groundbreaking technology extends the lifespan of the seal and eliminates the requirement for venting or flushing water.

**No Flush Water or Packing:** Cycloseal technology eradicates the need for packing or flushing water with its backplate and wide vanes, leading to cost savings, less service time, and no messy drips.

**Extended Seal Life:** Cornell's Cycloseal is highly durable in harsh conditions such as manure slurry, starch recovery, clear water, food processing, and self-priming applications, with the potential to triple the expected seal lifespan.

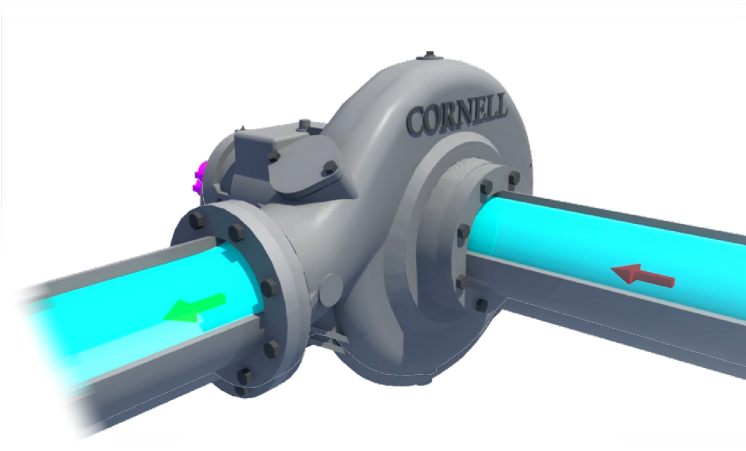
**Run-Dry™ Option:** Cornell's Cycloseal system-equipped pumps have an optional Run-Dry feature that lubricates the seal faces even without liquid in the pump casing. The Run-Dry feature is indispensable in scenarios where the pump must operate dry for an extended duration or may lose prime unexpectedly without being turned off.

**System Savings:** Cycloseal system eliminates the need for external water flush, filters, grease cups, or piping typically found in pumps with packing or mechanical seals.

**Better for Abrasive Applications:** Cycloseal is more durable than packing and regular mechanical seals that come into contact with grit and other substances, as it prevents solids from entering the seal area, resulting in less seal wear.

**Greater Reliability:** With positive seating, end users can easily detect when the Cycloseal is correctly installed, leading to longer service intervals due to its increased ability to withstand grit.

**Maintenance Savings:** A more durable seal results in less pump downtime and lower maintenance expenses throughout the pump's lifespan.




**Watch the Cycloseal video online to see it in action:**
*http://www.cornellpump.com/support/videos.html*

CORNELL PUMP COMPANY

# MARKET & PRODUCT LINE

CORNELL
EFFICIENT BY DESIGN

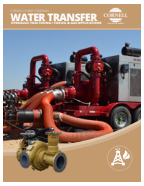
AGRICULTURE

FOOD PROCESS

INDUSTRIAL

MINING

MUNICIPAL



WATER TRANSFER

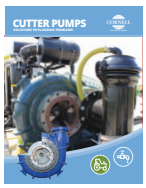
REFRIGERATION

CONSTRUCTION

SLURRY

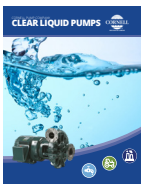
SLURRY SM

MANURE



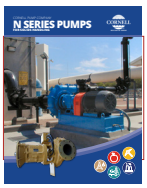
CUTTERS

SELF PRIMING

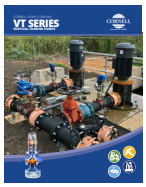


CLEAR LIQUIDS

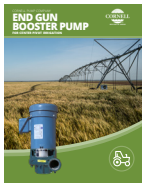
MX SERIES



N SERIES

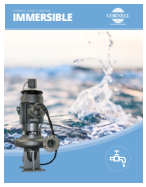


CYCLONE™



EDGE™

HYDRAULIC SUBS



IMMERSIBLE

CD4MCU

RUN-DRY™

PRIMING SYSTEMS

CYCLOSEAL®



23 - CT - BR - 101

**CORNELLPUMP.COM**



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Certified to ISO 9001:2015
TÜVRheinland Precisely Right.

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