

CORNELL PUMP COMPANY

FOOD INDUSTRY

PUMPS FOR TRANSPORT AND PROCESSING



FOOD PUMPS

INNOVATION & QUALITY

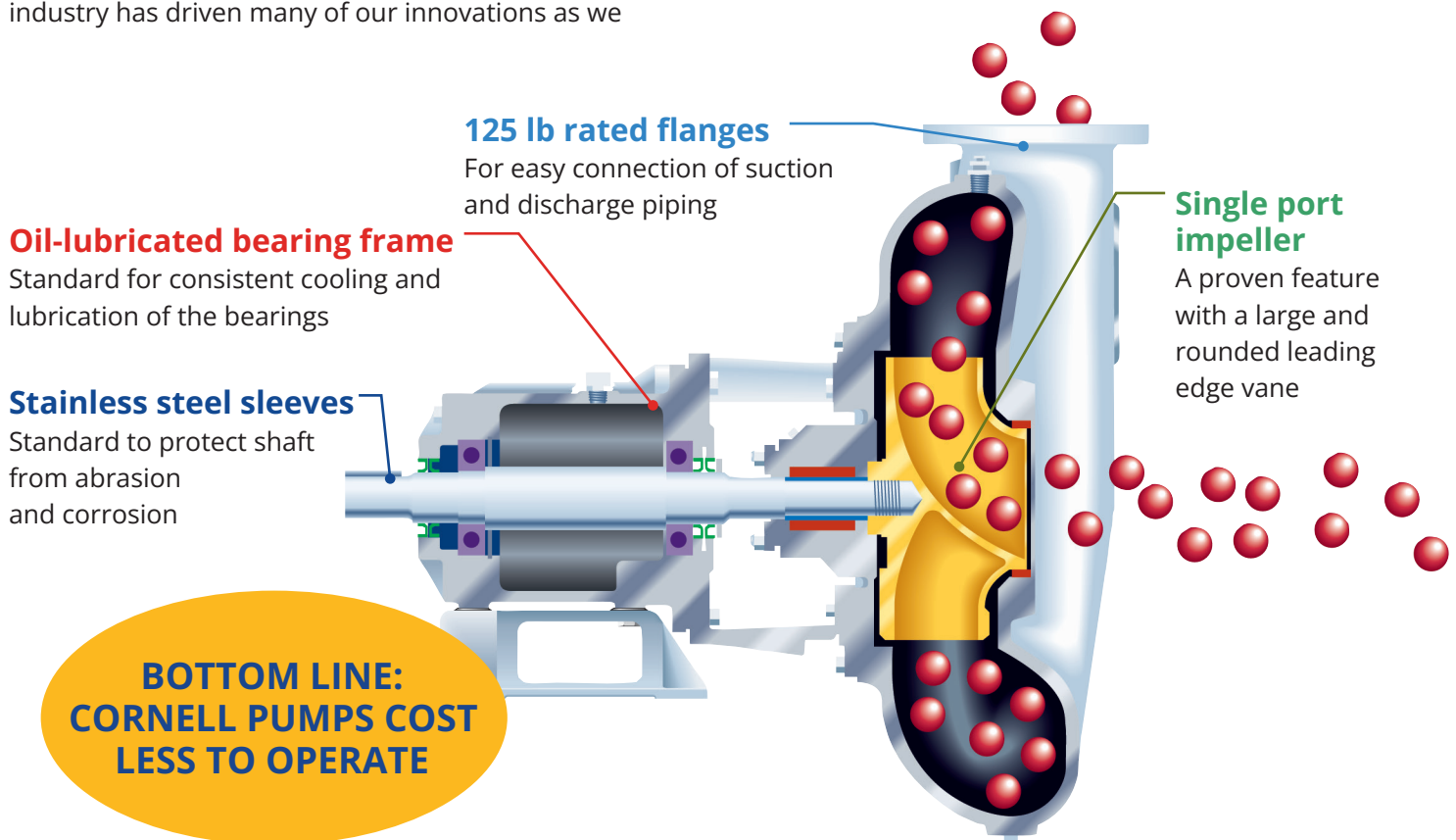
At Cornell, we recognize the essential role that food-handling pumps play in today's marketplace. Our cutting-edge single port impeller configuration, including a unique offset volute, offers an innovative solution for transporting even the most delicate food products.

Our reputation for quality and reliability has been established worldwide as we engineer and manufacture centrifugal pumps that deliver continuous and trouble-free operation. Some Cornell pumps sold as far back as the 1950s continue to provide the same reliable service today. At Cornell, we are committed to ensuring that your experience with our products is always advantageous. Our commitment to the food processing industry has driven many of our innovations as we

collaborate with customers to develop optimal solutions for food handling applications. We are dedicated to advancing the field of food-handling pumps and helping our customers succeed in their businesses.

EFFICIENCY

Apart from reliability, modern food process systems need to be efficient and cost-effective. With the escalating costs of energy, conservation and efficiency have become crucial for end-users looking to reduce expenses associated with energy consumption. At Cornell, we understand this need, and our pumps are designed to maintain excellent hydraulic operating efficiencies, coupled with energy-efficient motors.



QUALITY ASSURANCE

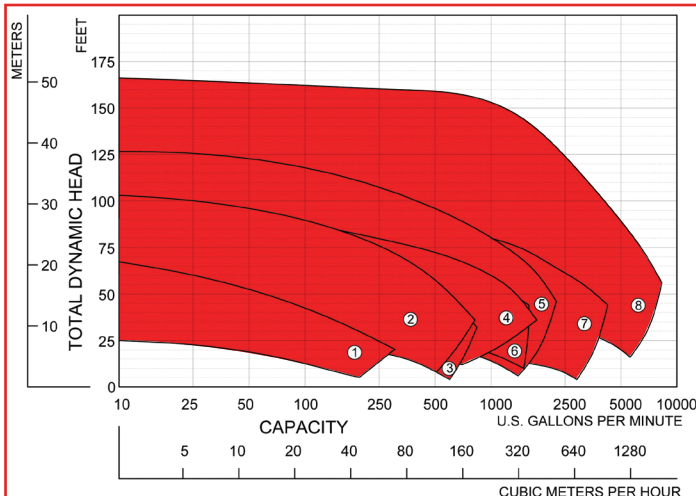
Cornell Pump Company proudly maintains its ISO 9001:2015 certification which validates that Cornell is in compliance with all necessary processes to meet customer requirements.

The elements associated with ISO 9001:2015 certification include such areas as contract review, design and development, production, purchasing, quality control and service.

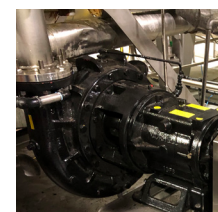
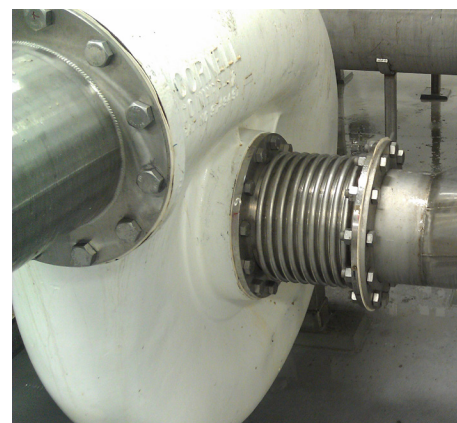
HYDRO-TRANSPORT FOOD PUMPS

P & PP SERIES SPECIFICATIONS

Discharge Size Range	3" to 12" / 76mm to 305mm
Max Solids Handling	8.75" to 14" / 222mm to 356mm
Max Flow	8,000 GPM / 1,817 m ³ /h
Max Head	120' / 36.6m



1. 3NLP	2. 4NMP	3. 4NMPP	4. 6NHP
5. 6NHPP	6. 8NHPP	7. 10NHPP	8. 12NHPP



MATERIALS OF CONSTRUCTION

- Ductile iron or 304SS construction on PP series
- Cast iron or ductile iron on P series
- Standard SAE 1144 Stressproof steel shaft; 17-4PH shaft optional
- 416SS shaft sleeve
- 304SS impellers standard on 4NMP, 4NMPP, 6NHP, 6NHPP, and 8NHPP
- Other construction materials available, including 316 stainless steel

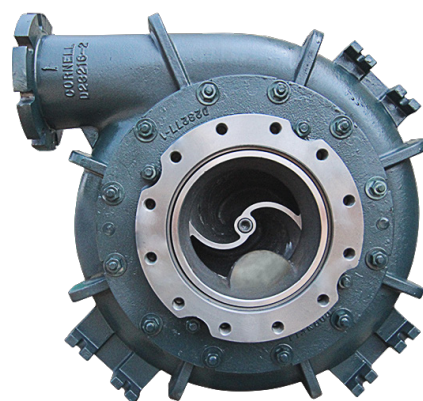
FEATURES

- PP series pumps have Cornell's exclusive offset and expanded volute
- Food grade packing standard
- Available Cycloseal® sealing system with tungsten carbide vs. silicon carbide faces
- Electro-polish on 304 Stainless Steel Pumps
- Optional clean-out port
- Two-year warranty

PERFORMANCE-FOCUSED PUMP DESIGN

Thanks to Cornell's unique volute design, food can flow through the pump and exit through the center of the discharge nozzle with minimal contact with any pump surface. The single port impeller, a proven feature with a large and rounded leading edge vane, is specifically designed to handle whole or processed foods. These features work together to reduce product damage and abrasion, maintaining product integrity.

WASTE WATER / RECOVERY



N-SERIES PUMPS

SERIES SPECIFICATIONS

Discharge Size Range	3" to 24"
Max Solids Handling	10.2"
Max Flow	38,000 GPM
Max Head	500'

MATERIALS OF CONSTRUCTION

- Ductile or cast iron pump casing
- Some models available in CD4MCu
- Ductile, cast iron, or CD4MCu impeller
- SAE 1144 stressproof steel shaft
- 420HT wear rings and shaft sleeve available

FEATURES

- Cycloseal® grit removal system
- High-efficiency design
- Run-Dry Option
- Redi-Prime Option
- Excellent NPSHr
- Two-year warranty

SELF-PRIMING PUMPS

SERIES SPECIFICATIONS

Discharge Size Range	2" to 10"
Max Solids Handling	3"
Max Flow	4,500 GPM
Max Head	275'

MATERIALS OF CONSTRUCTION

- Ductile iron volute casing, backplate, and impeller
- 17-4PH stainless steel shafts
- Optional CD4MCu on 3STX, 4STX and 6STX pump models

FEATURES

- Cycloseal® grit removal system
- High-efficiency design
- High RPM capacity for engine driven applications.
- High head capacity
- Modular design
- ANSI, NPT, and DIN flanges available
- Five-year warranty

CUTTER PUMPS

SERIES SPECIFICATIONS

Discharge Size Range	4" to 16"
Max Solids Handling	4.5"
Max Flow	20,000 GPM
Max Head	300'

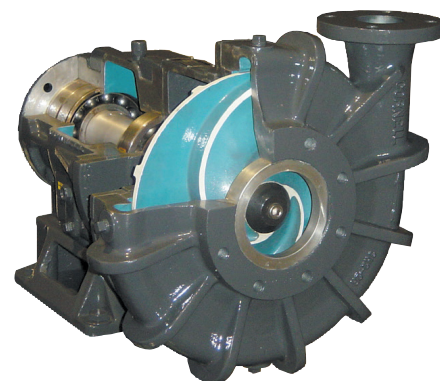
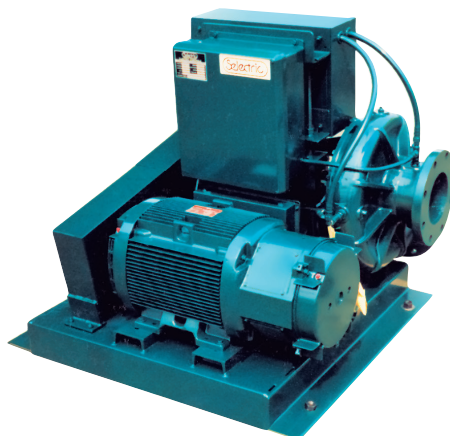
MATERIALS OF CONSTRUCTION

- Ductile or cast iron pump casing
- Some models available in CD4MCu
- Ductile, cast iron, or CD4MCu impeller
- SAE 1144 stressproof steel shaft
- 420HT stainless steel cutter blade

FEATURES

- Cycloseal® grit removal system
- High-efficiency design
- Run-Dry Option
- Redi-Prime Option
- Excellent NPSHr
- Two-year warranty

WASTE WATER / RECOVERY



CHOPPER PUMPS

SERIES SPECIFICATIONS

Discharge Size Range	4" to 6"
Max Solids Handling	2"
Max Flow	2,400 GPM
Max Head	250'

MATERIALS OF CONSTRUCTION

- Ductile or cast iron pump casing
- T1 tool steel cutter bar (60 Rockwell C hardness)
- Ductile or cast iron impeller
- 420 heat treated steel shaft sleeve
- SAE 1144 stressproof steel shaft

FEATURES

- Cycloseal® grit removal system
- High-efficiency design
- Run-Dry Option
- Redi-Prime Option
- Excellent NPSHr
- Two-year warranty

HYDRO TURBINES

SERIES SPECIFICATIONS

Discharge Size Range	1.25" to 10"
Min Head / GPM	50' / 90 GPM
Max Head / GPM	650' / 8000 GPM
Max kW	350 kW

Generate power from excess head through a Cornell hydro turbine. Excess hydraulic energy sources can produce electric power as a revenue source, or as method to reduce overall plant electric needs.

MATERIALS OF CONSTRUCTION

- Cast iron pump casings
- Cast iron or bronze rotor
- 416 stainless steel shaft sleeve
- SAE 1144 stressproof steel shaft

FEATURES

- Close coupled, frame mounted, horizontal and vertical mounting options available
- Two-year warranty

DELTA PUMPS

SERIES SPECIFICATIONS

Discharge Size Range	3" to 12"
Max Solids Handling	4"
Max Flow	5000 GPM
Max Head	450'

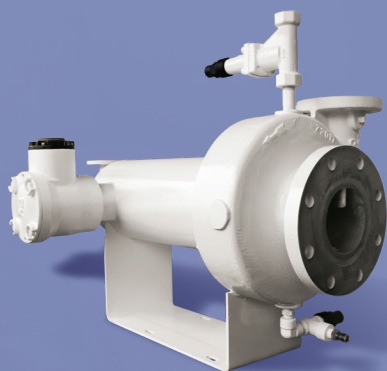
MATERIALS OF CONSTRUCTION

- Ductile or cast iron pump casing
- Ductile or cast iron impeller
- SAE 1144 stressproof steel shaft
- 420HT wear rings and shaft sleeve available

FEATURES

- Double Vortex impeller design for stringy materials
- Cycloseal® grit removal system
- High-efficiency design
- Run-Dry Option
- Redi-Prime Option
- Excellent NPSHr
- Two-year warranty

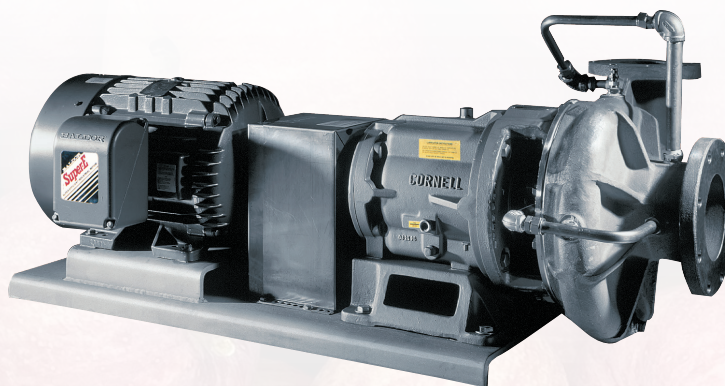
HOT OIL AND REFRIGERATION



REFRIGERATION PUMPS



Cornell's liquid overfeed pumps have proven effective in various fields, such as cold storage, food processing, refrigeration, ice production, and turbine inlet cooling. They are often utilized in liquid overfeed and transfer pump applications with refrigerants like anhydrous ammonia, aqueous ammonia, halocarbons, R-22, and other approved refrigerants. In addition, Cornell provides hermetic-style refrigeration pumps with operating capabilities and dimensions similar to the standard CB pumps. The Arctic King HT series is an excellent option if you are looking for a reliable pump for stable operating systems with minimal vapor entrainment or cavitation issues.



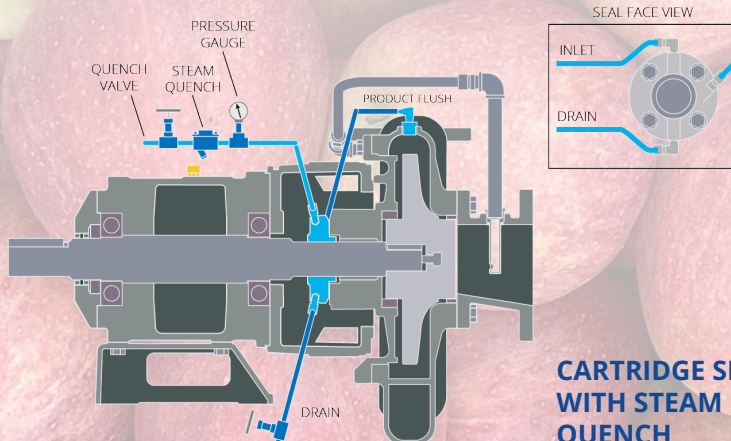
HOT COOKING OIL PUMPS

Cornell's latest innovations in hot cooking oil pumps focus on enhanced vapor handling and improved sealing technology. While frying fresh food, water travels at a temperature of 392°F (200°C) along the bottom of the fryer in a liquid phase until it reaches the pump suction. At this point, the impeller breaks the water into smaller droplets that quickly transform into steam. Typically, this would negatively impact the pump's head and flow due to entrained steam, but Cornell has developed an innovative anti-cavitation system that prevents this from occurring.

CARTRIDGE SEAL WITH QUENCH OPTION

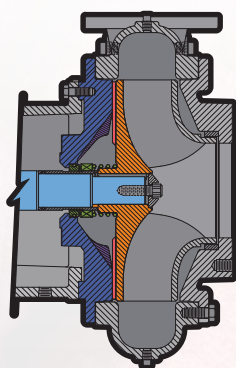
An enhanced sealing option is now available on Cornell's hot oil pumps, the cartridge seal offers these benefits:

- Safeguard employees and plant by guarding against leaks and failures
- Enhanced seal life against coking and product build-up
- Brief periods of dry running are possible because of the seal design
- Installation and repairs are easy to carry out, and galling is less likely on the shaft
- Enhanced heat range. Seals are usable up to 450° F/ 232C
- Quench with steam or water
- Prevents solids build-up on the atmospheric side of the seal
- Quench pressure should be limited to 0.2 BAR (3PSI) or less



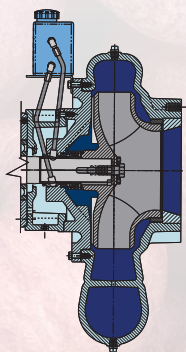
**CARTRIDGE SEAL
WITH STEAM
QUENCH**

CORNELL FEATURES



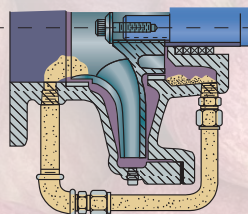
CYCLOSEAL®

The Cycloseal® system is a self-contained single mechanical seal upgrade for food-grade packing. It eliminates the need for external flushing, saving water usage. Using stationary 'vanes' to create pressure gradients, it moves solids away from the seal faces, extending seal life to at least three times that of a standard seal. The Cycloseal design is available in all food handling pumps except hot oil pumps.



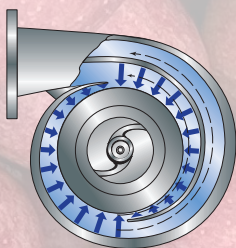
RUN-DRY™

Cornell's Run-Dry system uses an auxiliary gland with a specific lubricant to prevent mechanical seal damage during dry running. The gland is connected to a lubricant reservoir via inlet and outlet lines.



EXTERNAL HYDRAULIC BALANCE LINE

Cornell's external hydraulic balance line reduces axial loading on the impeller, shaft, and bearings. It 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 for hot oil pumps.



DOUBLE VOLUTE DESIGN

The double volute system in Cornell single-stage, end-suction centrifugal pumps enables efficient performance of significant volume and high-pressure jobs. It effectively balances forces around the impeller to reduce shaft flexure and fatigue for longer seal, bearing, and shaft life.

NEW!



Z SERIES ANSI PROCESS PUMPS

Cornell's ANSI-standard dimension pumps merge Cornell's well-known robust and highly efficient design with an easy-to-use and replaces form for industrial processes. Their ANSI construction facilitates the replacement of existing pumps, and the combination of ductile iron or CD4MCu construction with a sturdy bearing frame enables these pumps to run for more extended periods compared to competitors. These pumps also have an integrated balance line for superior impeller efficiency and hydraulic balancing. With open and enclosed impeller designs, there are 21 different models.

PERFORMANCE

DISCHARGE SIZE RANGE	1.5" TO 10"
MAX SOLIDS HANDLING	2.5"
MAX FLOW	5,000 GPM
MAX HEAD	320"

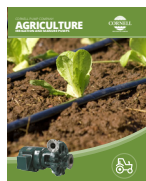
MATERIALS OF CONSTRUCTION

- Ductile Iron (DI) wet ends
- Cast iron bearing frames
- Shafts of carbon steel or stressproof steel
- Cast iron wear rings
- CD4MCU Material Std.
- Cartridge or Cycloseal

FEATURES

- ANSI standard dimensions
- Centerline construction
- Frame Mounted, Engine Mounted or Close Coupled
- Enclosed impeller
- High-efficiency design
- Hydraulic balance line
- Cornell Co-Pilot™ pump monitor ready
- Two-year warranty
- Ready-Prime available
- Large Oil Sump for Cooling

CORNELL PUMP COMPANY MARKET & PRODUCT LINE



AGRICULTURE



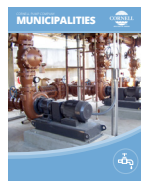
FOOD PROCESS



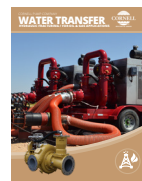
INDUSTRIAL



MINING



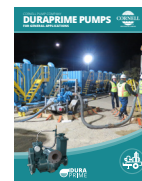
MUNICIPAL



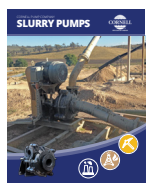
WATER
TRANSFER



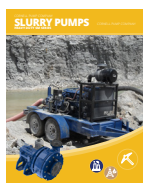
REFRIGERATION



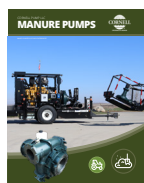
CONSTRUCTION



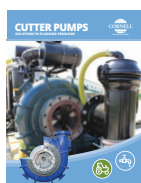
SLURRY



SLURRY SM



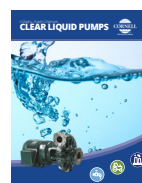
MANURE



CUTTERS



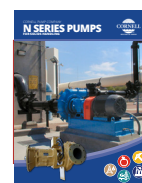
SELF PRIMING



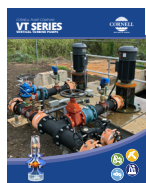
CLEAR LIQUIDS



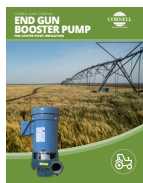
MX SERIES



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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Cornell Pump Company
Clackamas, Oregon, USA
P: +1 (503) 653-0330
F: +1 (503) 653-0338