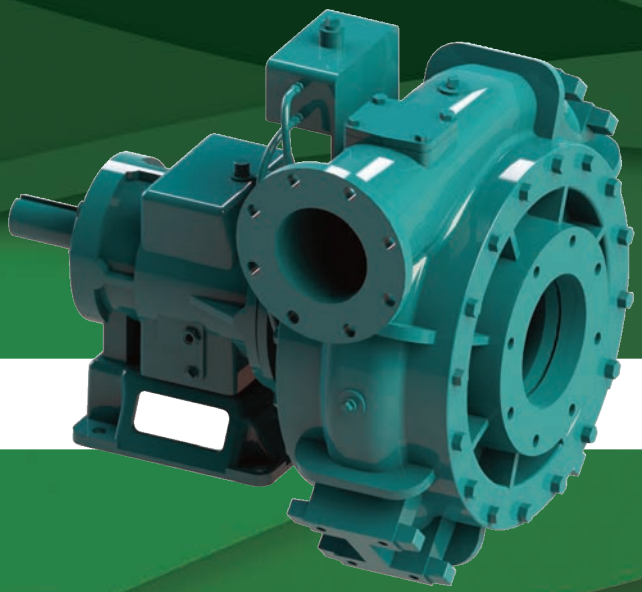
CORNELL PUMP COMPANY

MANURE PUMPS

IMAGE COURTESY OF PUCK CUSTOM ENTERPRISES



EFFICIENT BY DESIGN

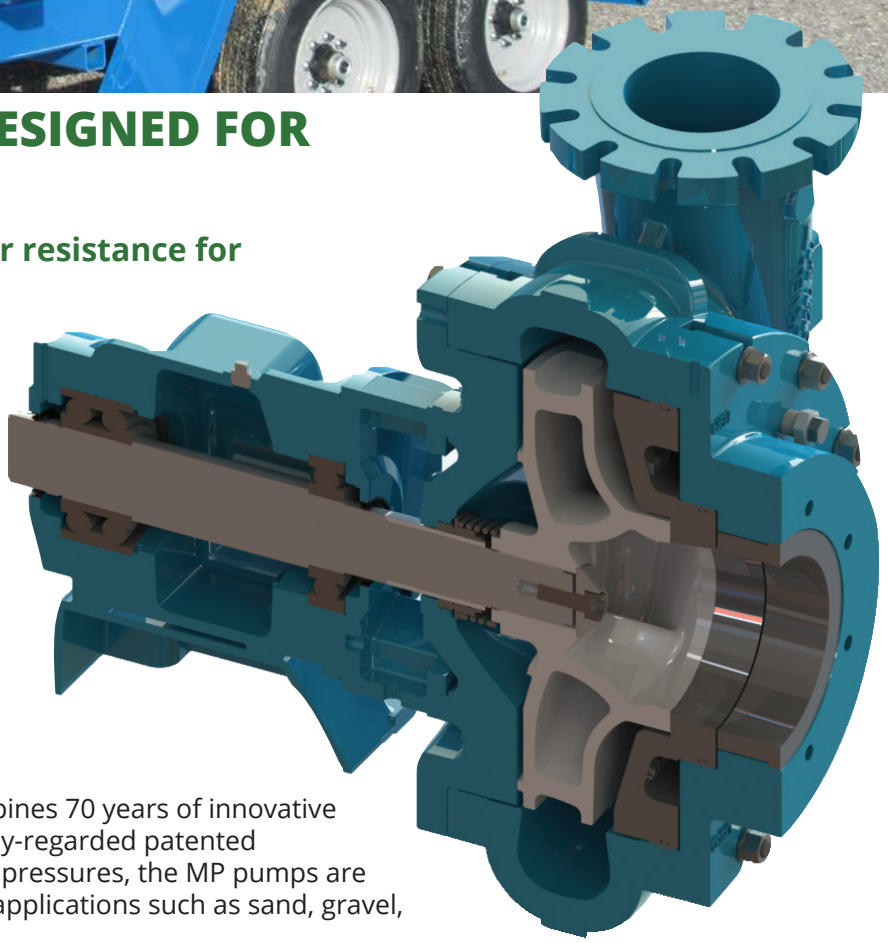
MP SERIES PUMPS


IMAGE COURTESY OF BAMBAUER EQUIPMENT

MP SERIES PUMPS ARE DESIGNED FOR COARSE ABRASIVES

The MP series offers exceptional wear resistance for reduced maintenance and long life in harsh environments.

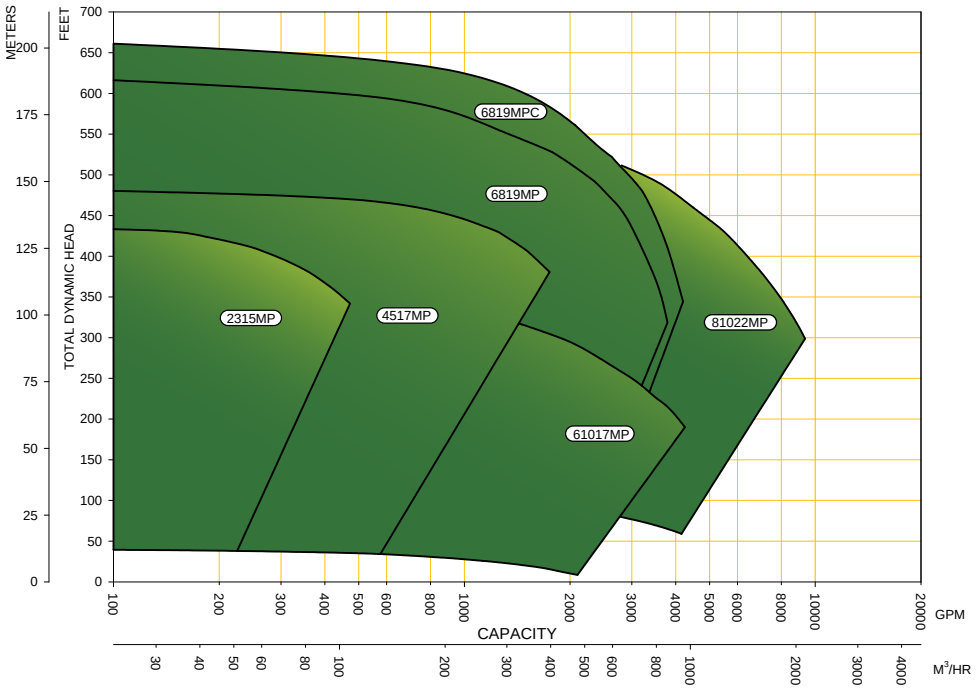
MP SERIES	
DISCHARGE SIZE RANGE	4", 6", 8"
MAX SOLIDS HANDLING	UP TO 3"
MAX FLOW	9,000 GPM
MAX HEAD	625'
SEAL TYPE	MECHANICAL SEAL WITH CYCLOSEAL®
IMPELLER	ENCLOSED
CONFIGURATIONS	HORIZONTAL FRAME AND SAE MOUNT



Cornell Pump Company's MP Pump Series combines 70 years of innovative pump manufacturing and design, with our highly-regarded patented Cycloseal® technology. Offering high operating pressures, the MP pumps are specifically designed for coarse abrasive slurry applications such as sand, gravel, and manure.

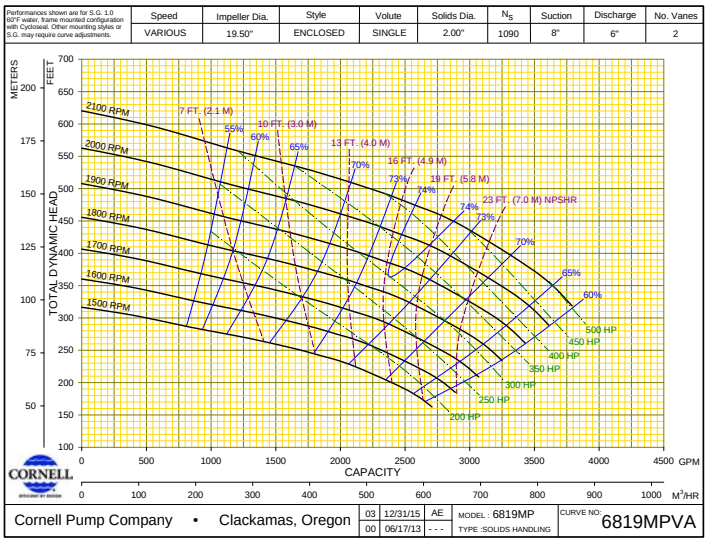
- Run-Dry™ and Redi-Prime® compatible
- High-chrome white iron or heat-treated ductile iron pump-end
- Thick cross-sections for abrasive wear and high operating pressures
- Front adjustable wear plate to regain lost efficiency while in service
- Replaceable suction liner and wear plates at point of maximum wear
- Heavy duty construction for aggressive applications with 17-4PH Stainless shaft
- Hardness rating > 650 BHN provides better wear properties compared to standard cast or ductile iron
- Heavy duty bearing frame with double angular contact thrust bearing. Oil or grease lubricated

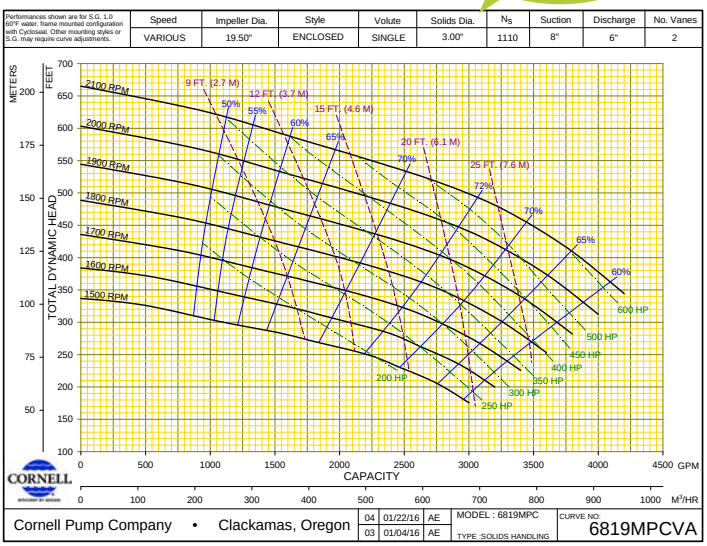
MP SERIES PUMPS



- LONGER WEAR LIFE THAN STANDARD CORNELL SOLIDS HANDLING PUMPS
- HANDLES SOLIDS UP TO 3”
- WORKS IN TOUGH ENVIRONMENTS
- CORNELL’S PATENTED CYCLOSEAL®, RUN-DRY®, AND REDI-PRIME® OPTIONS ARE AVAILABLE

NEW!





MATERIAL OPTIONS FOR MP PUMPS

VARIOUS PROCESSES CAN BE MOST EFFECTIVELY ACCOMPLISHED WITH DIFFERENT METAL HARDNESSES. CORNELL IS PROUD TO PRODUCE OUR SOLIDS HANDLING PUMPS IN FOUR DIFFERENT HARDNESS LEVELS.

MATERIAL	STANDARD MATERIAL HARDNESS		HARDER	HARDEST
	Cast Iron	Ductile Iron	Heat Treated Ductile Iron	White Iron
TECHNICAL NAME(s)	ASTM A48, CL30	ASTM A536 100-70-03	ASTM A536 100-70-03 quench and temper	ASTM A532, CL III; Type A 25% CR level 1
CORNELL MATERIAL CODE	CI	CV	ZY	CAC
RELATIVE COST	$	$	$$	$$$
HARDNESS	190-240 BHN	230-300 BHN	400-450 BHN	>650 BHN

Note: Wear resistance directly correlates to the hardness of the material.

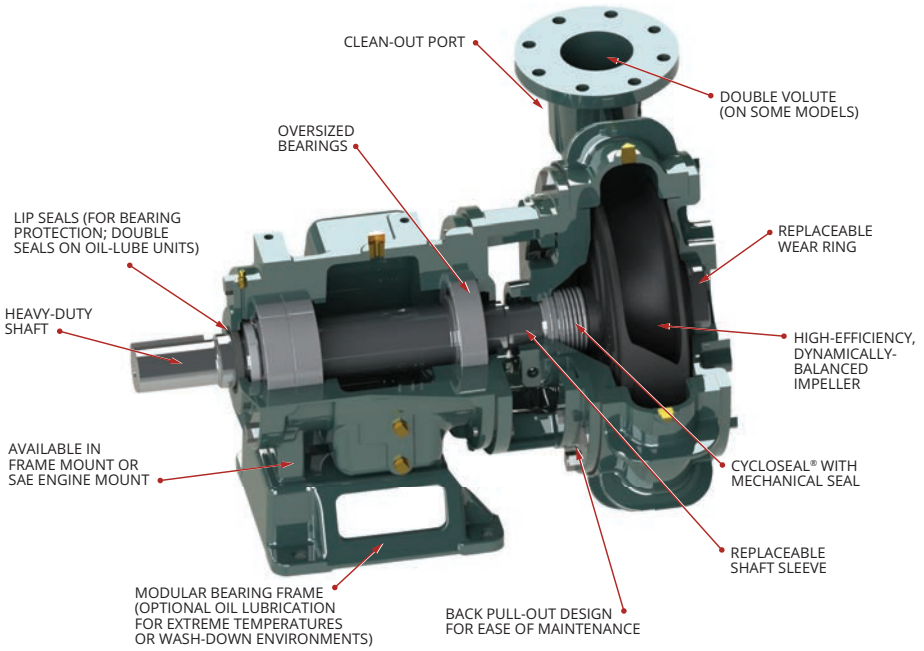
LEGACY MANURE PUMPS

IMAGE COURTESY OF BAZOOKA FARMSTAR

SLURRY PUMPS FOR TRANSFER, INJECTION & IRRIGATION

Cornell offers over 60 models of heavy duty Solids Handling Pumps for the toughest slurry applications.

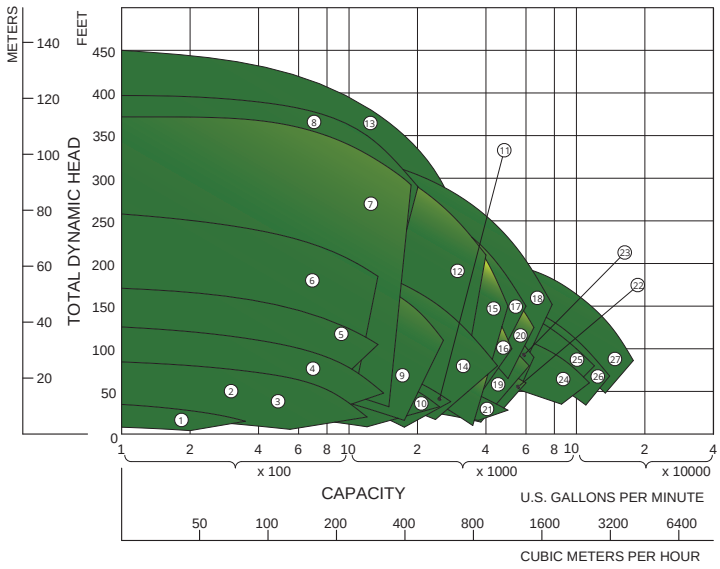
LEGACY MANURE PUMPS	
DISCHARGE SIZE RANGE	3" - 30"
MAX SOLIDS HANDLING	3"
MAX FLOW	38,000 GPM
MAX HEAD	470'
SEAL TYPE	MECHANICAL SEAL WITH CYCLOSEAL®
IMPELLER	ENCLOSED, SEMI-OPEN, OR DELTA
CONFIGURATIONS	VARIED



Cornell Manure Slurry pumps are iron or ductile iron construction with hard face mechanical seals for extended seal life. Optional materials are available for abrasive applications.

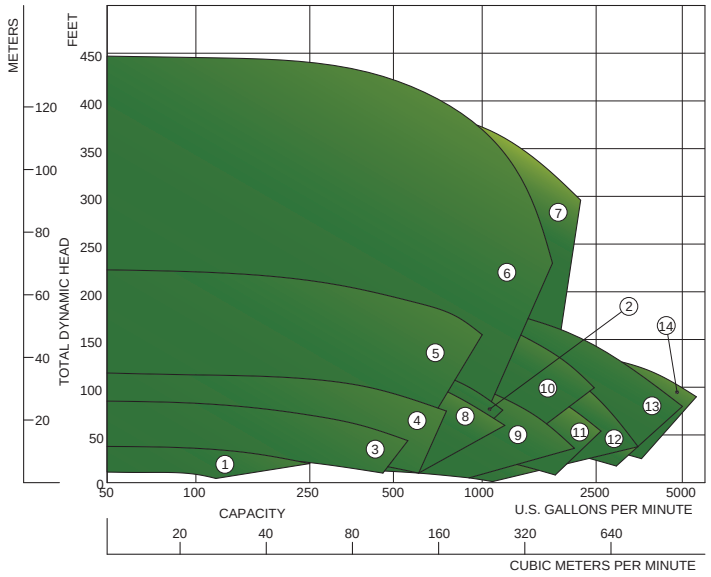
- High hydraulic efficiency
- Cycloseal® design
- Rigid, heavy walled construction
- Back pullout design
- Large bearings and shaft
- Impeller backvanes reduce axial thrust
- Replaceable wear rings and shaft sleeves
- Dynamically balanced impeller
- Low maintenance, long life
- Low power costs
- No seal venting or flushing required
- Ease of maintenance
- Smooth operating
- Solids handling capability
- Run-Dry®, Redi-Prime®, and cutter blades available
- Versatile mounting configurations

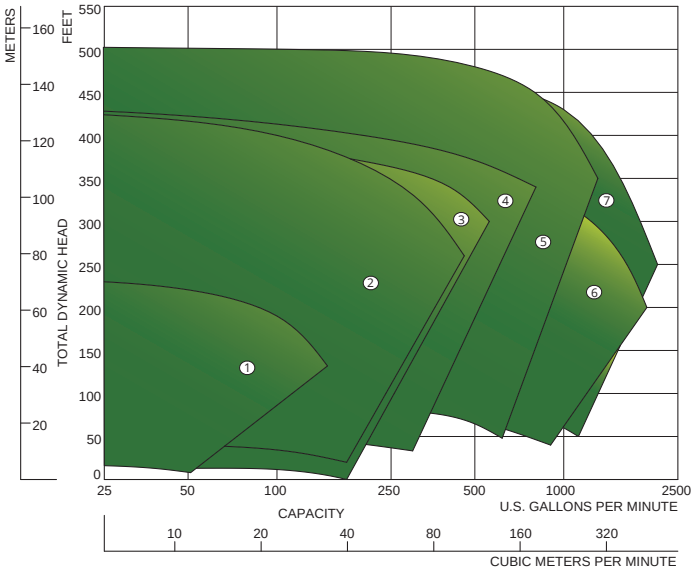
LEGACY MANURE PUMPS



ENCLOSED IMPELLER MODELS

1. 3NLT 900-1800 RPM
2. 3NNTL 900-1800 RPM
3. 4NNTL 900-1800 RPM
4. 4NNT 900-1800 RPM
5. 4NHTA 900-1800 RPM
6. 4414T 800-1800 RPM
7. 4NHTB 900-1800 RPM
8. 4514T 1200-2300 RPM
9. 6NHTA 900-1800 RPM
10. 6NNT 900-1800 RPM
11. 6NHT/TH 600-1200 RPM
12. 6NHTB 900-1800 RPM
13. 6NHTB19 900-1800 RPM
14. 8NNT 900-1800 RPM
15. 8NHTA 900-1800 RPM
16. 8NHTH 600-1200 RPM
17. 8NHTR 900-1800 RPM
18. 10NNT 1200-1800 RPM
19. 10NHTB 550-1200 RPM
20. 10NHTA 900-1200 RPM
21. 12NHTL 900-1200 RPM
22. 12NHTM 900-1200 RPM
23. 12NNT 1200-1900 RPM
24. 14NHG 900-1200 RPM
25. 14NHGA 900-1200 RPM
26. 16NHGH 600-1200 RPM
27. 16NHG22 900-1200 RPM





DELTA ™ IMPELLER MODELS

1. 3NLA 1200-1800
2. 3NLHM 1500-2500
3. 4NLDL 1200-1800
4. 4NNDH 900-1800
5. 4NHDH 900-1800
6. 4NHM 1200-1800
7. 4NHM17 900-1800
8. 4NLHM 900-2300
9. 6NHDH 900-1200
10. 6NHM 900-1800
11. 6NNDH 900-1800
12. 8NNDH 900-1800
13. 10NNDH 720-1200
14. 10NHM 600-1000

SEMI-OPEN IMPELLER MODELS

1. 1.25YML 1800-3600
2. 2.5HM 1200-3600
3. 2.5YM 1800-3600
4. 3HM 1200-1800
5. 3517M 1200-2100
6. 4HM 1200-1800
7. 4614M 1200-2600

STX/H/L SELF-PRIMING PUMPS

STX/STL/STH Series of popular self-primers to have the best efficiencies in the industry. Using Combined with our patented-Cycloseal® back plate technology, the pumps are durable, powerful, and energy efficient. Heads up to 253' and efficiencies to 68%. Simple to operate, Cornell Self Priming series are wet-primed (fluid in the pump cavity at initial operation), then self-priming as long as there is water above the eye of the impeller.

CORNELL SOLIDS HANDLING IMPELLERS

ENCLOSED TWO, THREE, AND FOUR PORT

SPHERICAL SOLIDS

Large spherical solids pass through the pump while offering 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

Cutting action allows the semi-open impeller to handle the worst slurries at high heads.

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

DELTA STYLE

STRAW AND STRINGY MATERIALS

Trailing edges on impeller vanes reduce low pressure areas. Vortices are created which pass solids through the impeller. No "hair pinning" or hang-up of stringy materials. Larger solids are broken up.

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

BLADE CUTTER

RAGGING MATERIALS

Rotating and stationary cutter blades mounted on the suction end break up clogs and rags before they reach the impeller while keeping efficiencies as high as possible.

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

WASTE WARRIOR

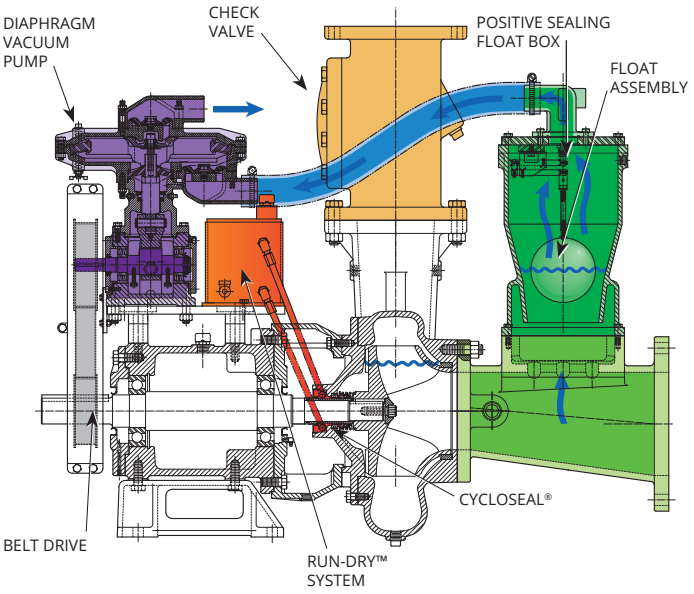
WASTE WARRIOR CUTTER

SEVERE RAGGING

A more aggressive solution to troublesome clogs and severe ragging issues. A scythe-like edge sweeps the area where the suction pipe meets the volute to keep materials from clogging in the impeller area.

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

CORNELL FEATURES & BENEFITS

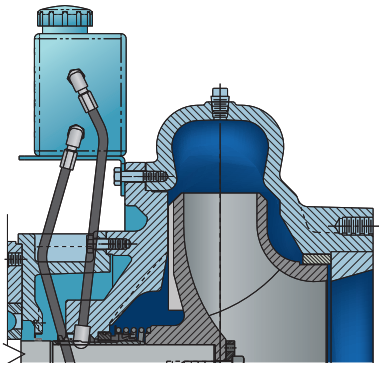


REDI-PRIME® DRY-PRIMING OPTION

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.

Redi-Prime is offered on all Cornell industrial pumps, and is available on virtually every other pump we design as well.

- Fully automatic priming and repriming
- Handles air/liquid mixtures with ease
- Rapidly primes and re-primes completely unattended
- Environmentally safe priming system designed to prevent product leakage
- Premium hydraulic efficiency for reduced energy consumption



RUN-DRY™ SEAL PROTECTION SYSTEM

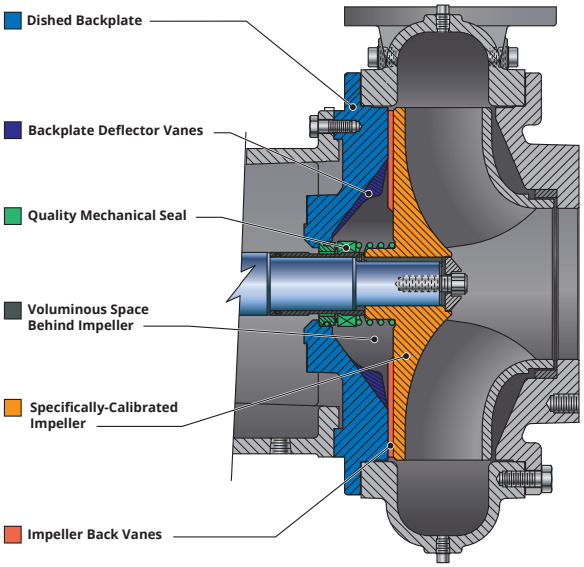
Cornell's Run-Dry system consists of an auxiliary gland and oil reservoir that keeps the seal faces lubricated and prevents dry running of the seal faces during priming, re-priming, or standby operation.

- Run dry for hours without damaging the seal
- Cools and lubricates seal faces
- Ideal for applications that could operate in a dry condition
- Useable in conjunction with Cycloseal® and Redi-Prime®

VENTURI PRIME PRIMING SYSTEM

The venturi prime system utilizes a compressor driven by the pump shaft and lubricated by engine oil to blow air through the venturi to evacuate air from the suction line and pump casing. The venturi prime is an economical design and is compatible with any Cornell Pump where Redi-Prime® is an option.

- Fully automatic priming and repriming
- Primes with reasonable speed
- Can operate unattended
- Available with manual valve for operation in colder climates



CYCLOSEAL® SYSTEM FOR GRIT REMOVAL

Cycloseal is a patented system with a self-contained single mechanical seal with a dished line. The Cycloseal pattern cast into the pump backplate in conjunction with contoured impeller back vanes and a dished backplate creates pressure gradients that move solids and entrained vapor away from the seal faces. The Cylcoseal system is only available on Cornell pumps.

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

CORNELL®

EFFICIENT BY DESIGN

MARKET AND PRODUCT LINE

AGRICULTURAL

FOOD PROCESS

INDUSTRIAL

MINE DEWATERING

MUNICIPAL

REFRIGERATION

OIL & GAS

CYCLOSEAL®

CHOPPER

CUTTER

EDGE™

HYDRAULIC SUBS

HYDRO TURBINE

IMMERSIBLE

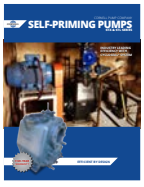
MANURE

MP SERIES

MX SERIES

MX MINING

REDI-PRIME®

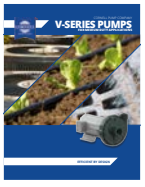


SELF PRIMING

SLURRY

SUBMERSIBLE

WATER TRANSFER



V SERIES

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