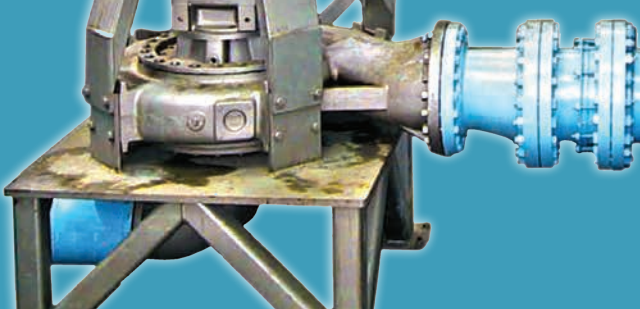




CORNELL PUMP COMPANY

# MUNICIPALITIES



EFFICIENT BY DESIGN





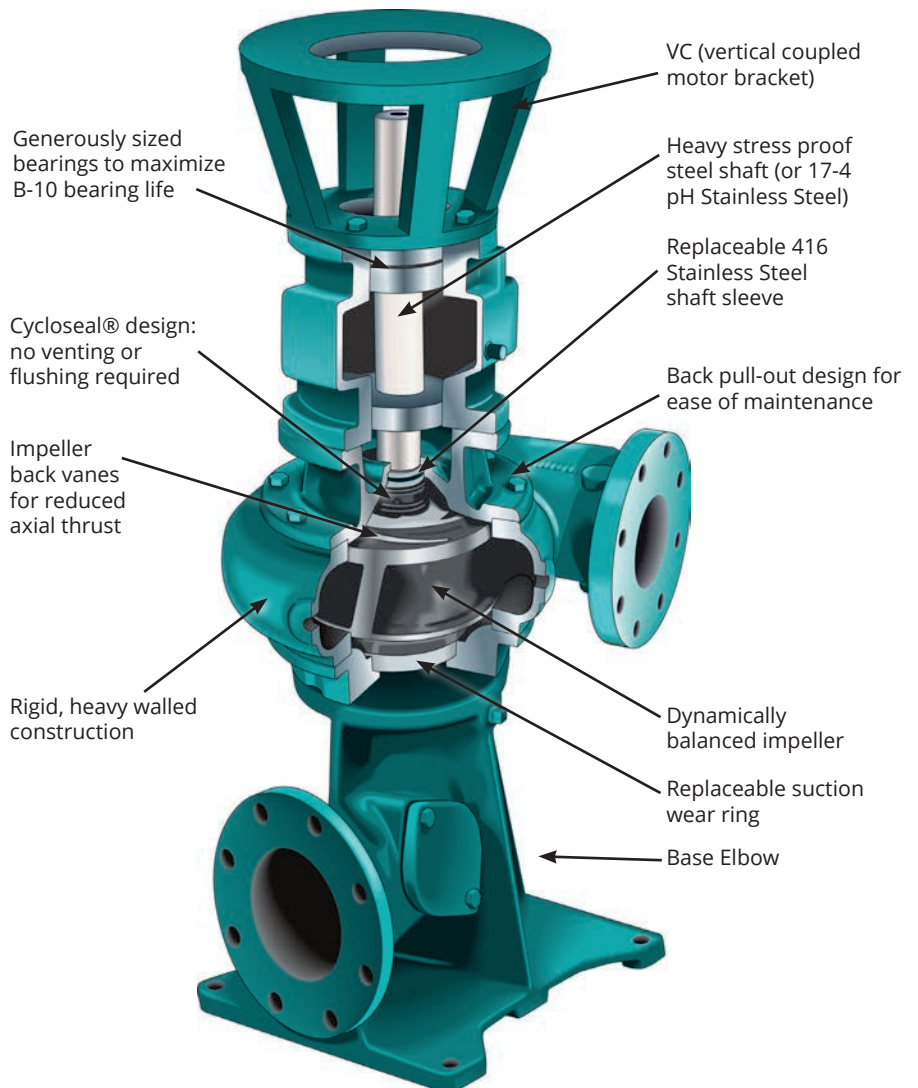
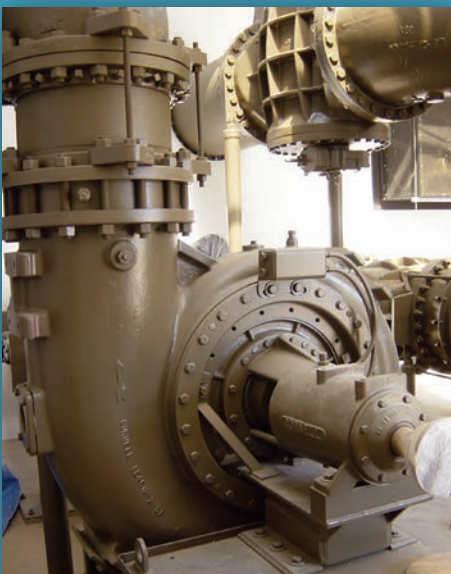
# SOLIDS HANDLING



## SOLIDS HANDLING

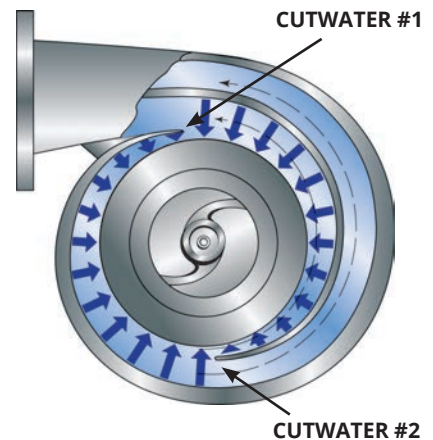
Cornell Solids Handling pumps are used for waste water, sludge, sewer systems, stringy material, de-watering, abrasive transfer, canneries, construction, dredging, lumber mills, slush ice, reclamation plants and foundry or mill slag.

Available with Delta™, Semi-open, Enclosed, and Chopper impellers, Cornell pumps are offered in various discharge sizes ranging from 3 to 30 inches, with heads to 470 feet TDH, and flow rates of up to 38,000 GPM.



## DOUBLE VOLUTE DESIGN

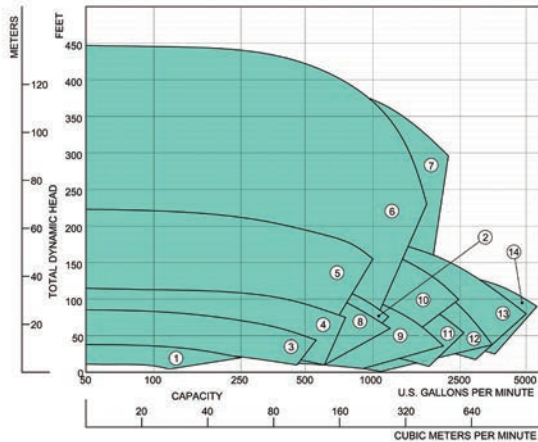
The double volute system enables Cornell single-stage, end-suction centrifugal pumps to easily perform big volume and high pressure jobs. On single volute pumps, the increasing pressure acts against the impeller area and creates unbalanced radial forces. By contrast, the double volute system effectively balances these forces around the impeller to reduce shaft flexure and fatigue for longer seal life, bearing life and shaft life.



**"VARIOUS DISCHARGE SIZES RANGING FROM 3 TO 30 INCHES, WITH HEADS TO 470 FEET TDH, AND FLOW RATES OF UP TO 38,000 GPM."**

# SOLIDS HANDLING

## DELTA™ IMPELLER



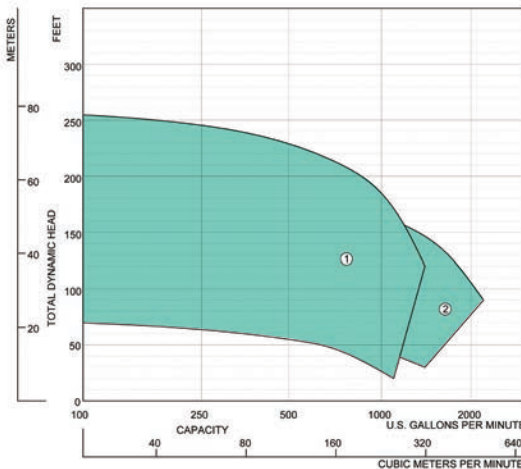
- |          |            |
|----------|------------|
| 1. 3NLA  | 7. 6NHM    |
| 2. 4NLDL | 8. 6NNDH   |
| 3. 4NNDH | 9. 8NNDH   |
| 4. 4NHDH | 10. 10NNDH |
| 5. 4NHM  |            |
| 6. 6NHDH |            |



## DELTA™ STYLE PUMPS

The trailing edges of Cornell's Delta™ impeller vanes extend continuously across the pump's suction entrance to reduce low pressure areas. Two distinct vortices are created which pass solids through the impeller. The absence of sharp impeller edges prevents hang-up of stringy materials. Many of our enclosed impeller type pumps can be retrofitted with Delta™ style impellers. Delta™ pumps are available in 3 x 3", 4 x 4", 6 x 6", 8 x 8" and 10 x 10" sizes. Capacities range from 50 to 5,000 GPM and heads range from 10 to 450 feet.

## CHOPPER IMPELLER



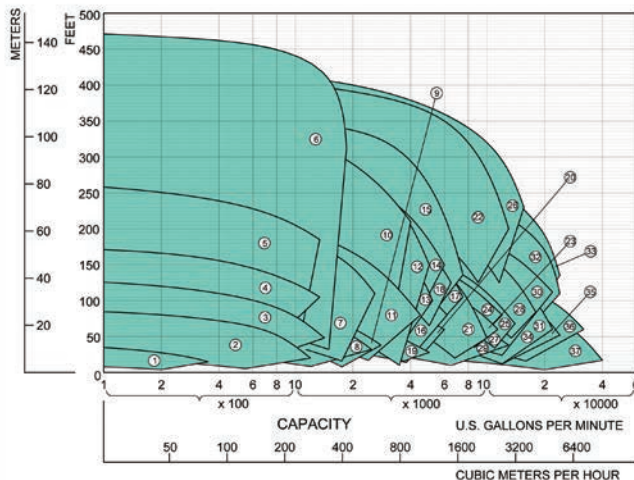
- |        |        |
|--------|--------|
| 1. 4NC | 2. 6NC |
|--------|--------|



## CHOPPER PUMPS

Cornell Chopper pumps, constructed of ductile iron with replaceable cutter bars of heat treated T1 tool steel are ideally suited for chopping solids. Back to back angular contact ball thrust bearings and single ball radial bearings make for smooth operation. TDH ranges from 30-200 feet with flows to 1,500 GPM.

## ENCLOSED IMPELLER PUMP CURVES



- |            |             |             |             |
|------------|-------------|-------------|-------------|
| 1. 3NLT    | 11. 8NNT    | 21. 12NNF   | 31. 18NHFL  |
| 2. 4NNTL   | 12. 8NHTA   | 22. 12NHG28 | 32. 18NHF34 |
| 3. 4NNT    | 13. 8NHTH   | 23. 14NHG   | 33. 18NHG34 |
| 4. 4NHTA   | 14. 8NHTR   | 24. 14NHGA  | 34. 20NHFL  |
| 5. 4414T   | 15. 8NHGA   | 25. 14NHGH  | 35. 20NHF   |
| 6. 4NHTB   | 16. 10NHTB  | 26. 14NHG28 | 36. 24NNG   |
| 7. 6NHTA   | 17. 10NHTBH | 27. 16NHGH  | 37. 30NNT   |
| 8. 6NNT    | 18. 10NHTA  | 28. 16NHG22 |             |
| 9. 6NHT/TH | 19. 12NHTL  | 29. 16NHG32 |             |
| 10. 6NHTB  | 20. 12NHTM  | 30. 18NHG   |             |



## IMMERSIBLES

The basic design of the immersible pump/motor is a premium efficient, inverter duty, P-Base or C-Face, totally enclosed, blower cooled motor. The design prevents water infiltration along the shaft into the motor by utilizing a triple redundant sealing system, including a patented Hydroseal design. The immersible motor can withstand up to 30 feet of submergence depth for a 2 week period.



SCAN THIS QR CODE  
FOR MORE INFO ON  
SOLIDS HANDLING



## CLEAR LIQUID PUMPS

Cornell Clear Liquid pumps are used for commercial and residential irrigation, golf course and lawn maintenance, aqua culture, fountains, breweries, laundries, cooling towers, fire fighting, reverse osmosis feed, and water boosters.

The W, Y, R and H series pumps are available in a wide range of materials with discharge sizes ranging from 1 to 10 inches, heads to 450 feet TDH, and flow rates up to 7,000 GPM.

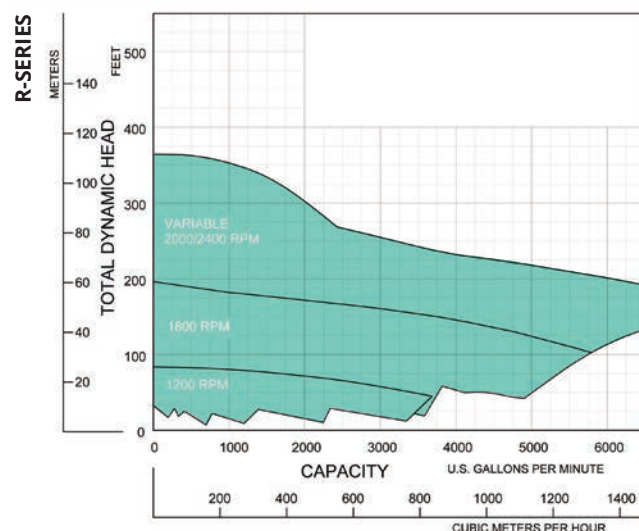
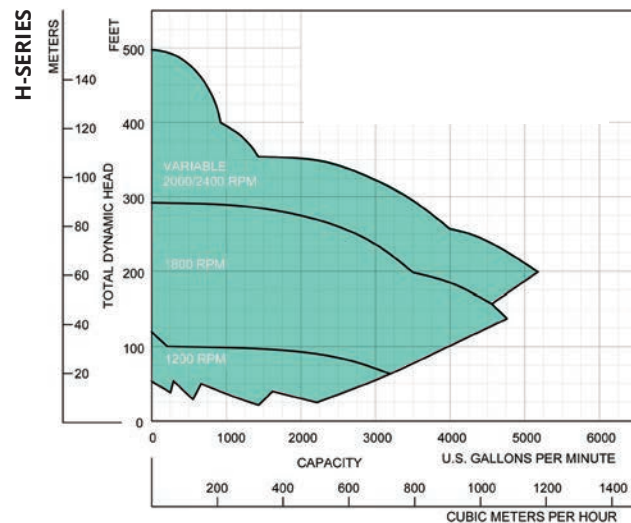
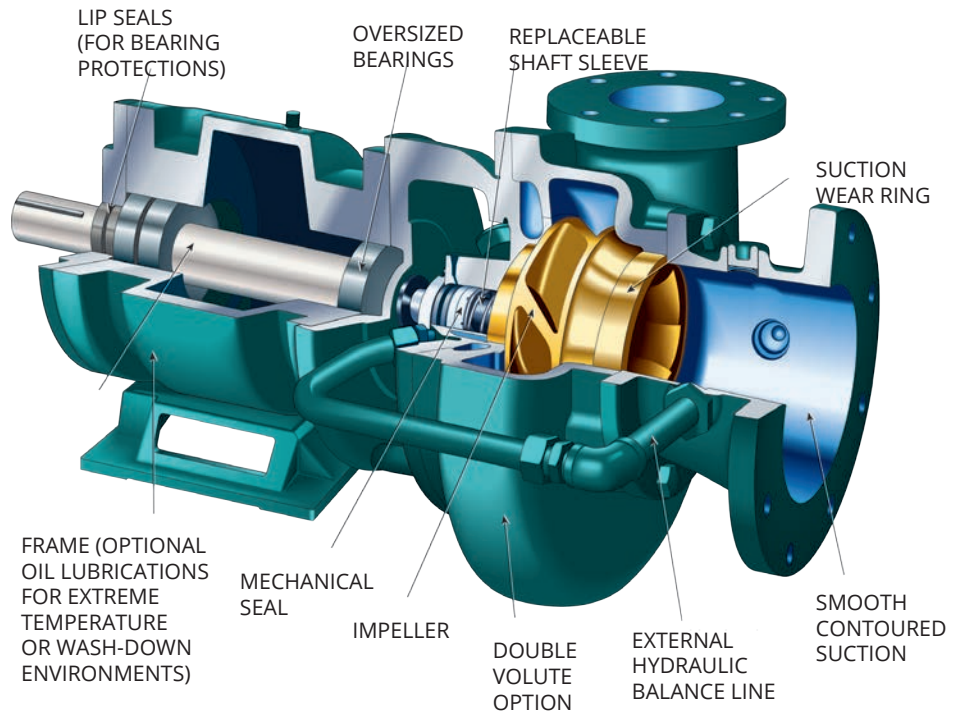


## MATERIALS OF CONSTRUCTION

All Cornell clear liquid pumps are constructed with top quality materials. Cornell water pumps are cast iron, bronze fitted or all iron construction. Optional materials are available for abrasive or caustic applications. Standard features include balanced impellers, heavy-duty shafts, replaceable shaft sleeves, and replaceable wear rings.

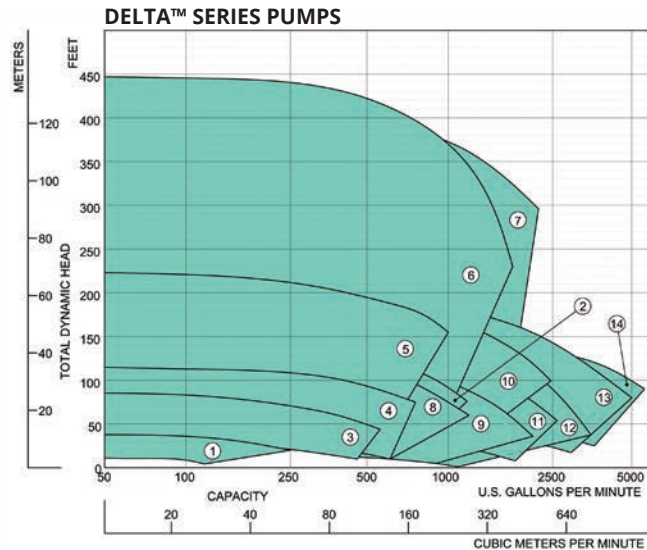


# WATER BOOSTER

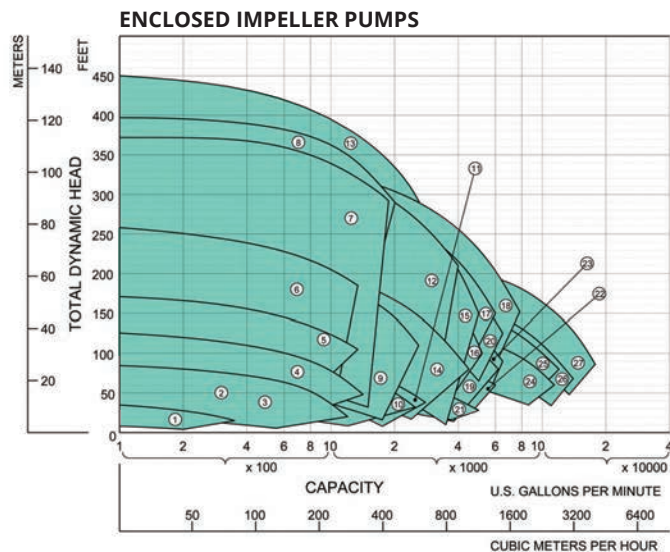


# SUBMERSIBLES

Cornell uses the same high efficiency pump-ends for our submersibles that have been proven time and again in standard municipal applications. Coupled with the highest quality motors, Cornell's submersible product line provides the best possible value.



MODEL	5. 4NHDH	10. 6NHM
1. 3NLA	6. 4NHM	11. 6NNDH
2. 3NLHM	7. 4NHM17	12. 8NNDH
3. 4NLDL	8. 4NLHM	13. 10NNDH
4. 4NNDH	9. 6NHDH	14. 10NHM



MODEL	7. 4NHTB	14. 8NNT	21. 12NHTL
1. 3NLT	8. 4514T	15. 8NHTA	22. 12NHTM
2. 3NNTL	9. 6NHTA	16. 8NHHT	23. 12NNT
3. 4NNTL	10. 6NNT	17. 8NHTR	24. 14NHG
4. 4NNT	11. 6NHT/TH	18. 10NNT	25. 14NHGA
5. 4NHTA	12. 6NHTB	19. 10NHTB	26. 16NHGH
6. 4414T	13. 6NHTB19	20. 10NHTA	27. 16NHG22

## SUB ACCESSORIES

**HEAVY DUTY AUTO-COUPLING ASSEMBLY**  
- Discharge elbow with lift out sealing flange assemblies allow for pump service without the need to disconnect plumbing. Available for submersible pumps over the weight limit of STANDARD DUTY auto-couplings or for larger installations requiring a HEAVY DUTY base.

- Ductile iron construction
- Guide rail supports designed to accept standard pipe rails
- O-ring and rubber face sealing ring
- Non-Sparking Design available for certain sizes (contact factory)

Cornell offers different impeller designs for liquid wastewater applications. Cornell's delta style impellers shown on the right below is excellent for handling debris, rags and extremely heavy sludge where there are low to medium head requirements. The two- and three-port enclosed impellers shown on the bottom left are designed to handle large solids and maintain excellent efficiencies. All of Cornell's submersible pumps have a 4" or larger solids capacity.



Enclosed Impeller for high efficiency, 3" solids diameter or larger



Delta™ Style Impeller for Rags, Stringy Material and other severe applications

**"CAPACITIES FROM 80 GPM TO 15,000 GPM AND HEADS FROM 10 FEET TO 400 FEET GIVE CORNELL A CLEAR PERFORMANCE ADVANTAGE."**



# HYDRO-TURBINE



10TR2S AND 5TR4S IN THE CITY OF BURBANK, CALIFORNIA - ENERGY RECOVERY PROJECT

## STANDARD TURBINE CONSTRUCTION:

- Cast Iron, Bronze fittings - optional, Ductile Iron, Steel, Bronze, Stainless Steel.
- Mechanical shaft seal is standard, packing is optional.
- Standard ODP generator - optional TEFC.
- Hydro blue, double applied paint.

## PUMP STATION BYPASS

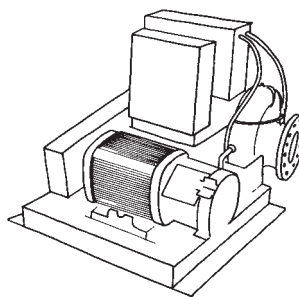
Cornell Redi-prime® pumps are designed with the suction larger than the discharge. This provides more flow due to reduced friction losses. Cornell's priming system was specifically designed with the environment in mind. By using a positive sealing float box and a diaphragm vacuum pump, there is absolutely no water carry over to contaminate the environment. Suction lifts of 28 feet and heads of up to 470 feet are possible depending on suction losses and operating points on the pump curve.

## REDI-PRIME® SYSTEM

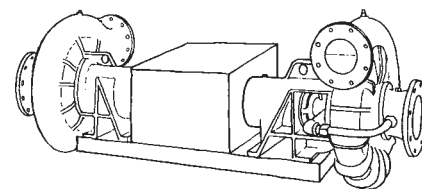
The Redi-prime® system includes a vacuum assisted diaphragm pump, Cycloseal® and Run-Dry™ features. It is a compact, fully automatic, self-priming system, and delivers high hydraulic efficiencies.

## HYDRAULIC ENERGY

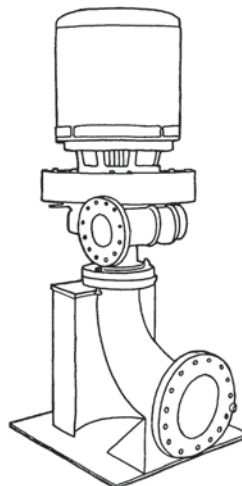
Industrial plants, municipalities, HVAC installations, and farms are tapping potential hydraulic energy sources to produce electric power as a revenue source or as a means to reduce overall energy demands. Cornell turbines can handle heads up to 600 feet and flows up to 18 cubic feet per second.



Synchronous generator for stand-alone applications with hydraulic-electric load controller, belt (or direct) drive to turbine, all base assembled.

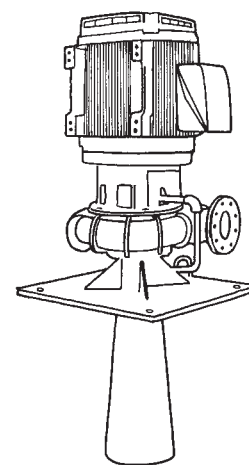


Horizontal frame mounted turbine, direct drive to an energy requiring device. (Turbine driving a pump is shown. A generator may be substituted for the pump.)



Vertical mount, close coupled turbine with optional integral flywheel\* and base elbow. (Also available without flywheel)

\*Flywheels are used to prevent excessive surge pressures and to give more stable speed control



For added space saving or simplicity of manifolding, close coupled, vertical mount with custom draft tub (available less draft tub for discharge manifold mounting).

# ADDITIONAL PRODUCTS

## HYDRAULIC SUBMERSIBLE PUMPS

Cornell's DDuraSub™ uses a heavy duty pump end and bearing frame for direct coupling to a hydraulic motor. The DuraSub™ has a modular design which allows standard Cornell pump ends to be used as a Hydraulic submersible pump.

- Available for most Cornell pump models
- Hydraulic motor driven
- Various adapter plates available for hydraulic motor fit
- Heavy duty shaft / bearing frame assembly and wet end construction
- Premium wet end efficiencies reduce horsepower requirements
- Heavy duty pumps ends for long service life and reliability

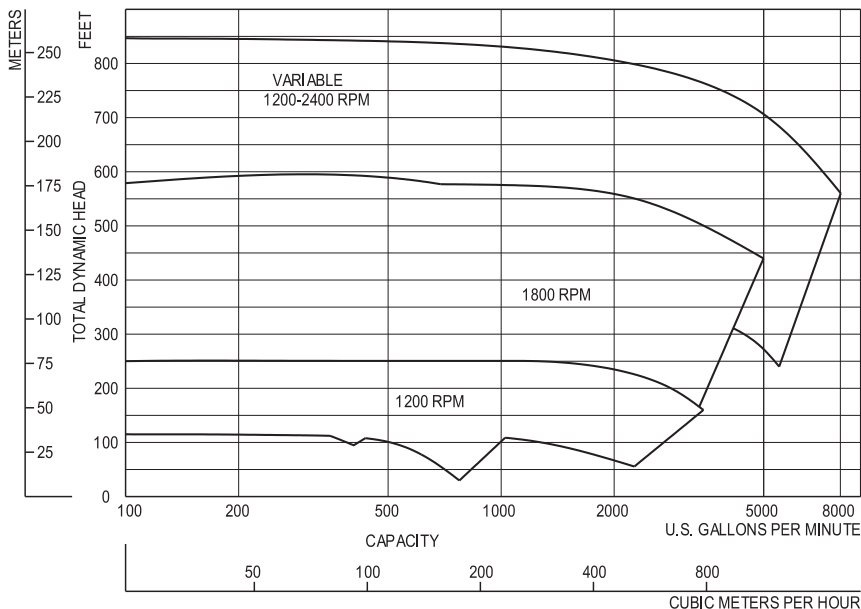


## MX SERIES HIGH PRESSURE PUMPS PRESSURES 800FT TDH AND FLOWS TO 4000GPM

Designed to handle high head applications while providing a long service life. The new high head MX SERIES pumps have multi-vane, enclosed impellers designed for INDUSTRY LEADING EFFICIENCY. The MX SERIES pumps have extra heavy wall thickness, high quality construction, CA6NM impellers and are available in a horizontal frame & SAE mounted configurations.

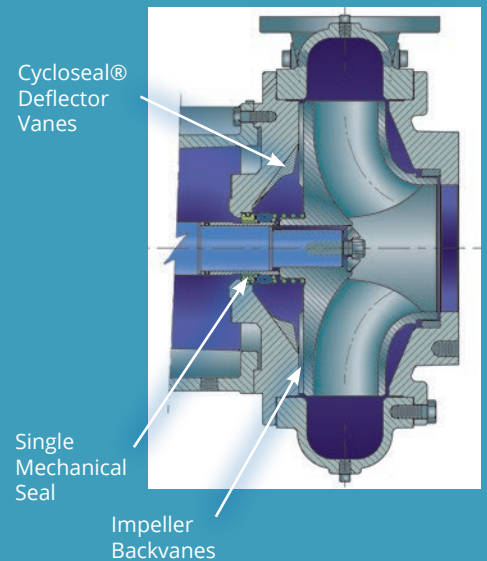


MX SERIES



## CYCLOSEAL

Cornell's Cycloseal design has proven itself in the toughest applications from manure slurry to starch recovery to sewer bypass and mining applications - in some cases more than tripling the normally expected mechanical seal life.



**System Savings:** The Cycloseal® system requires no external water flush, filters, grease cups, piping or instrumentation normally associated with packing or double mechanical seals.

**Maintenance Savings:** Longer seal life which translates into less pump down time and lower maintenance costs.





## MARKET AND PRODUCT LINE



AGRICULTURAL



FOOD PROCESS



INDUSTRIAL



MINE DEWATERING



MUNICIPAL



REFRIGERATION



OIL & GAS



CHOPPER



CUTTER



EDGE™



HYDRAULIC SUBS



HYDRO TURBINE



IMMERSIBLE



MANURE



MP SERIES



MX SERIES



MX MINING



REDI-PRIME®



STX SERIES



SLURRY



SUBMERSIBLE



WATER TRANSFER

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: 3,207,485; 3,282,226; 3,295,456; 3,301,191; 3,630,637; 3,663,117; 3,743,437; 4,335,886; 4,523,900; 5,489,187; 5,591,001; 6,074,554; 6,036,434; 6,079,958; 6,309,169; 2,320,742; 96/8140; 319,837; 918,534; 1,224,969; 2,232,735; 701,979 and are the subject of pending U.S. and Foreign Patent Applications.



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