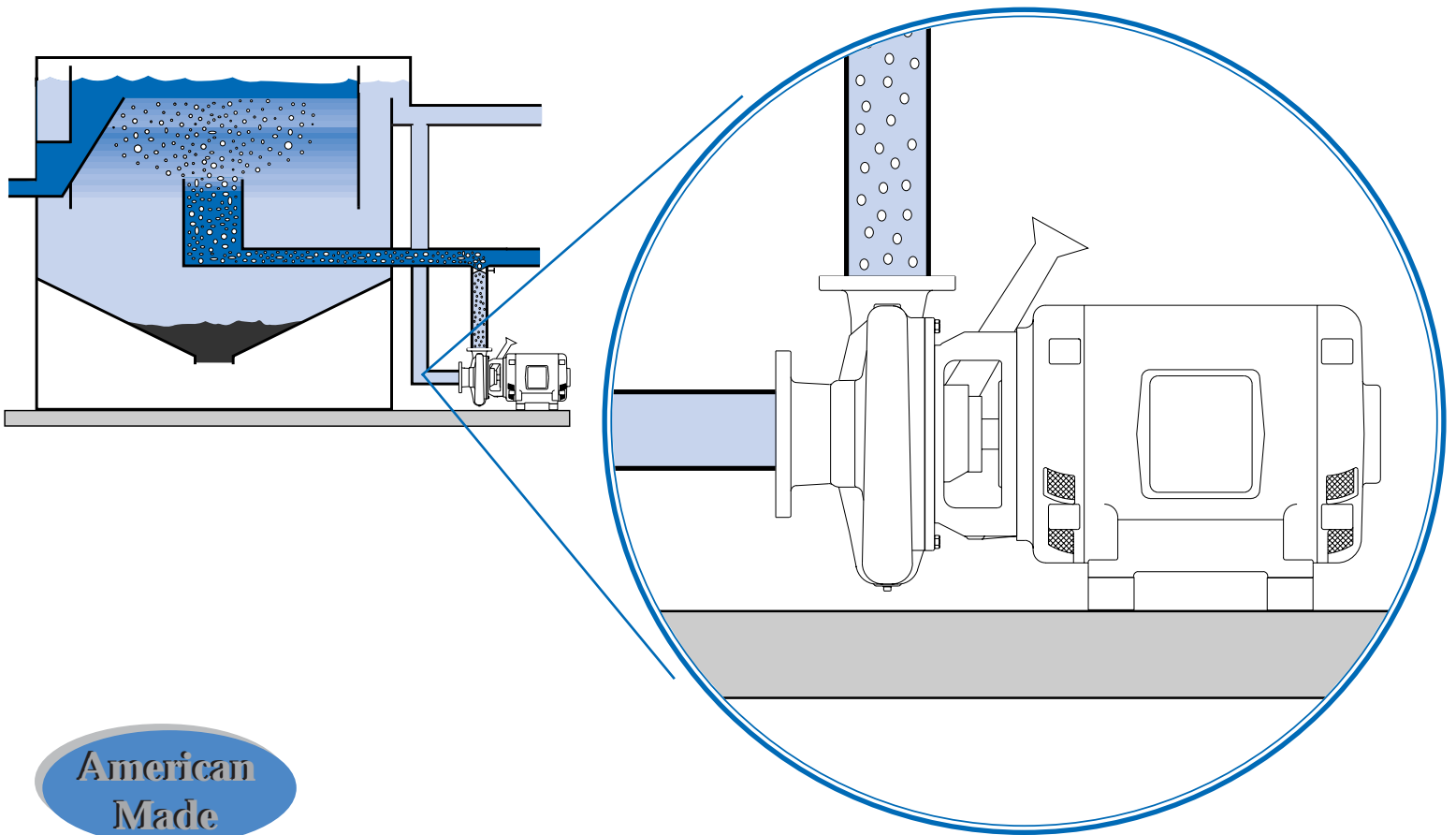


# Cornell Patented DAF Pump

## Dissolved Air Flotation

By implementing Cornell's patented Cycloseal® design,\* we are able to eliminate the air saturation tank and the compressor normally associated with a DAF system. This is done by using an innovative impeller design to create a sub-atmospheric pressure region in the seal chamber. Air is aspirated into the seal chamber, then mixed with pumpage and compressed into micro-bubbles. The micro-bubbles are then dissolved into the pumpage and moved through the discharge of the pump and out to the process. By using Cornell's patented DAF pump in a system, costs are decreased by eliminating expensive components.



American  
Made

## DAF Pump Features and Benefits

- **No compressor**
- **No air flow panel**
- **No air saturation tank**
- Cornell durability, reliability, and quality
- Reduced maintenance costs
- Low initial investment
- Compact

## Monosep<sup>®</sup> Corporation, Broussard, Louisiana

Monosep<sup>®</sup> Corporation, located in Broussard, Louisiana, is a manufacturer of column type induced gas flotation (IGF) systems, either the

**...tested a Cornell DAF pump in one of their systems and feels they can incorporate this unit into a gas flotation system...**

Cyclosep<sup>™</sup> or Spinsep<sup>™</sup>. The column system is designed to sparge gas into the bottom of the vessels to attach to the oil

droplets and lift them to the surface to be removed. Two different system set ups have been tried, the sparging tubes and the eductor, but neither has been successful. The sparging tubes generate a finer gas bubble than the



eductor, but plug and scale over reducing the life and efficiency of the gas sparging tubes. The best solution would be to replace the gas sparging tubes but keep the finer gas bubbles.

Monosep<sup>®</sup> Corporation has tested a Cornell DAF pump in one of their systems and feels they can incorporate this unit into a gas flotation system, allowing finer

bubbles without the problems associated with sparging tubes and eductors.

## Milieu-Nomics Incorporated, Wheaton, Illinois

The benefits of Cornell's patented DAF pump are fourfold: the efficiency of separation is increased; through puts per unit clarification area are higher;

**Redesign of DAF wastewater system brings important improvements...**

operational problems are significantly reduced as a result of the major simplification

of the equipment; and operating costs are cut. Additionally, the new DAF pump can be retrofitted to virtually all existing DAF systems and

provide the benefits described above. Milieu-Nomics General Manager Dan Williamson said the company is actively pursuing both new applications for this equipment and the retrofit of DAF systems already in place. He said the new pump offers improvements which give their system significant advantages over existing processes. "Combined with the REDUX clarifier, the new configuration yields the simplest and most reliable DAF system available today," he claimed.

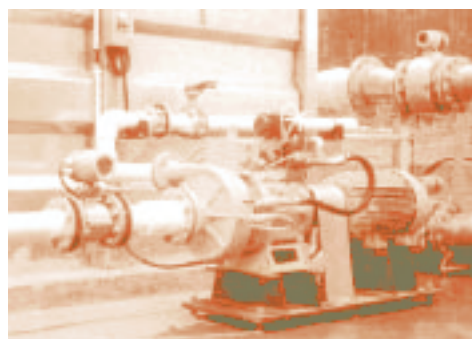
## Henley, Auckland, New Zealand

Henley, located in New Zealand, is a manufacturer of wastewater and water treatment plants. The Henley Sub-Micron DAF system is designed

**These utilize the unique Cornell dissolved air pumps...(producing) some exceptional TSS removal rates.**

to remove in excess of 90% of TSS (total suspended solids) prior to secondary treatment. Suspended solids are flocculated using Polyethylene

Oxide (PEO) which is particularly suited for this type of effluent stream. These units utilize the unique Cornell dissolved air pumps and



during the monitoring period produced some exceptional TSS removal rates. Each fully automatic

DAF system, controlled from the central PLC, is custom designed and is available in sizes ranging from 10m<sup>3</sup>/hr to 120m<sup>3</sup>/hr per unit.

### Cornell Pump Company

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