CITY OF CLEARWATER'S
NORTHEAST ADVANCED WASTEWATER TREATMENT PLANT'S
MOTOR CONVERSION PROJECT

City of Clearwater
Water Pollution Control Division
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PROJECT BACKGROUND

The City of Clearwater's three Advanced Wastewater Treatment Plant's (AWTP) electrical costs has risen from 5.5 cents per kw in 2003 to 10 cents per kw in 2007. This increase in electrical costs prompted the development of the Water Pollution Control's (WPC) Motor Conversion Project. A 125 Hp Aerator motor was converted at the Northeast AWTP to test the conversion technology. The result of the project is the aerator is drawing 56 amps and was previously drawing 82 amps. The Water Pollution Control Department also reviewed savings data from the City of Dunedin's motor conversion project. As a result of the data from these motor conversions, the City of Clearwater is converting 9 motors at the Northeast at a cost of $93,900.00. The estimated savings is $100,000.00 to $125,000.00 annually. An additional bonus is approximately 30,750 gallons per year of fossil fuel will not be consumed used to produce electricity.

HOW IT WORKS

Ample Amps® technology adds a second winding– with capacitors – parallel to and in reverse relation with the original winding. This allows the motor to magnetize only to the extent needed at any given moment. A good analogy is water at a dam running through turbines spinning an armature surrounded by copper windings creating a magnetic field producing electrons. The water mirrors the electricity spinning the motor. The secondary windings are the copper surrounding the armature creating a magnetic field producing electrons. The converted motor is producing a portion of the power it uses. The result: best possible performance at all times and at all loads. This patented double-winding technology is for use in any new or used alternating current (AC) electric motor from the smallest single-phase to the largest, most powerful 3-phase unit. Figure 1 shows a schematic of the additional winding.

Figure 1

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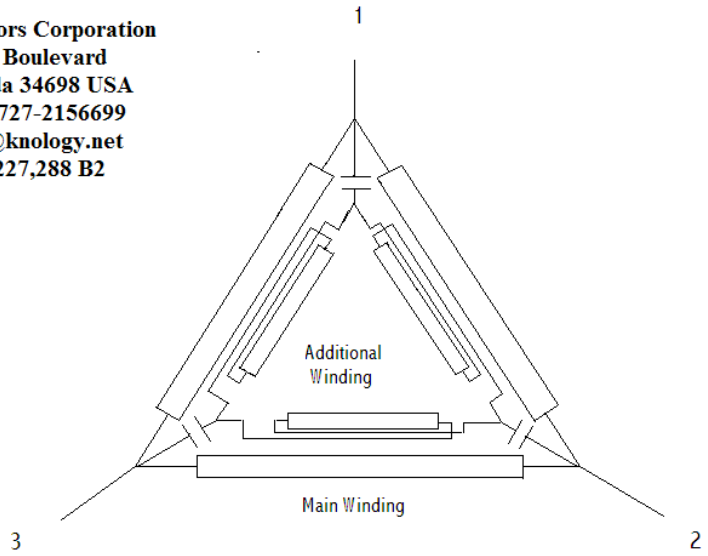

PERFORMANCE

- Ample Amps® technology provides a Power Factor (PF) of .98-.99 over a full range of loads.
- No significant loss of torque
- Starting amperage reduced by as much as 50%, providing a "soft start"
- 30% lower running amperage
- No-load consumption as low as 5-7% of nominal amperage rating
- Kilowatt savings of 5-15% (up to 30% in slow-speed motors)
- Reactive power (KVAR) improvement of 100-500% or greater – KVAR improvement prevents power bills from being kicked up to surcharge rates
- Applicable to all AC motors of any size, speed, voltage, phase or duty
- UL® approved by TUV America.

ABOUT THE COMPANY

Miraculous Motors Corporation (MMC) is a private; Florida based Technology Company founded in June 2003. The company is focused on energy savings through the development and distribution of a patented technology for alternating current electric motors, transformers, and certain types of generators. MMC is now ready to introduce this technology to grant licenses and to enter into business agreements and commercial relationships worldwide. To date, MMC has reached these milestones:

- Patent granted in the United States and France and pending in 42 additional countries and nearly every industrialized nation
- Operation of MMC Research facility
- MMC has a proven technology that has been tested and studied extensively at Oregon State University's Motor Research Facility. The technology has also been tested in numerous applications in many different motors, in both the U.S. and elsewhere worldwide
- Ample Amps® is a registered trademark of MMC
- MMC is a proud member of NEMA and IEEE