

# ENERGYwise

FOR YOUR BUSINESS



## Adjustable Speed Drives:

**Are motors part of your business? Did you know you can save money and energy by changing the speed of the motor as the demand of the motor changes?**

### Value for Your Business

Most motors turn at nearly constant speed. They are designed to operate most efficiently at their horsepower (hp) rating. However, sometimes the load or work motors need to perform is less than maximum design speed. You can save energy by only using the power you need from a motor.

This speed reduction can be accomplished by an Adjustable Speed Drive (ASD), also known as a Variable Frequency Drive (VFD). The drive varies the shaft speed to the driven load. Slowing a pump or fan in this manner reduces energy consumption exponentially allowing a motor to run at constant speed with a variable load.

Drives also provide soft starting, allowing a motor to start slowly and then speed up. This reduces the mechanical stress on both the motor and equipment driven by the motor. This also can reduce the voltage sag that can occur when a large motor starts quickly. A VFD varies the frequency of the Alternating Current (AC) power. The motor speed varies in proportion to the drive operated frequency.

### How does it work?

The rebates are available for new ASD's. Drives must be tied to an automated control system and have a true power factor of .90 or greater.

Approved applications of ASD's include:

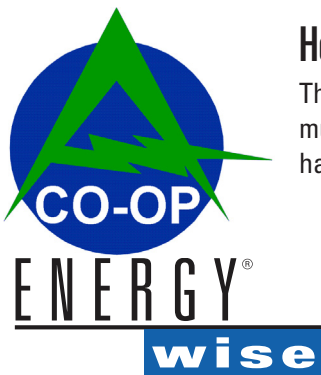
- HVAC fans
- Pumps
- Cooling towers
- Process equipment
- Industrial fans

Please submit ASD controlled chillers, refrigeration compressors and air compressors through Agralite Electric Cooperative's custom rebate program. The ASD will be evaluated in conjunction with the equipment operating efficiency and loading. The rebate is based on the rated ASD controlled horsepower or horsepower of the motor, whichever is lowest. Rebates are not available on replacement ASDs, soft starts, power factor correction or related equipment.

### Who can participate?

Any agricultural, commercial or industrial cooperative customer can participate.

Adjustable speed and variable frequency drives were only found in large motors in industrial settings. The increased sophistication and proliferation of these drives have pushed energy savings into HVAC pumps, fans, conveyor motors and other smaller applications in a variety of commercial and industrial areas. Where the load fluctuates, there is potential for a drive to save money.



# Save money and energy by changing the speed of the motor as the demand of the motor changes



It is not surprising that motor use typically represents more than half of most manufacturers' electric bills. What is surprising is that most of us still feel that a slight improvement in efficiency does not warrant a motor replacement, even when the payback period can be less than one year. Motors are one of the few electrical devices with a significantly higher operating cost than capital cost.

## What you'll receive

A \$30 rebate per hp based on rated ASD control hp or hp of motor, whichever is lower.

## What you need to do

1. You are responsible for checking with Agralite Electric Cooperative to verify funding availability and program parameters.
2. Installation must be complete before funds will be issued.
3. Itemized invoices from equipment vendors must accompany rebate application.
4. Invoices must itemize labor charges, quantity and price of the equipment installed.

5. Invoices must include manufacturer and model numbers for the installed equipment.
6. Agralite reserves the right to conduct inspections.
7. The maximum rebate amount is limited to 50% of the project costs, and \$100,000 annually per member.

## Contact us and start saving today

If you have any questions or need assistance in making these savings a reality for your business; please contact your local energy expert at Agralite Electric Cooperative.

## Success Story:

East Bay Municipal Utility District Wastewater Department serves more than 600,000 residential and 20,000 commercial customers in seven San Francisco Bay communities. It replaced five old 700 hp influent pumps and motors and four old 1,000 hp effluent pumps and motors with high-efficiency pumps and energy-efficient motors with variable frequency drives. This resulted in an annual energy cost reduction from \$535,000 to \$262,000, resulting in an annual savings of \$273,000.

Source: U.S. Department of Energy



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