

## Dairy

### DAIRY PLATE COOLER:

Milk cooling is the largest energy expenditure on a dairy farm and is vital to milk quality. A dairy plate cooler pre-cools warm milk before it enters the bulk tank by utilizing a heat exchanger that extracts heat from the milk using cool well water. When the pre-cooled milk enters the bulk tank, the refrigeration compressor finishes cooling the milk.

- The dairy plate cooler reduces run time on the refrigeration compressor, saving energy and money.
- If a refrigeration compressor is operating near maximum cooling capacity, adding a less expensive plate cooler could increase cooling capacity and increase total milk production.

### MILK PUMP (VFD):

A VFD produces a steady flow of milk through the plate cooler and optimizes cooling. Reducing the run time of the bulk tank compressor when a plate cooler is used in conjunction with a milk pump VFD results in approximately 30% in energy savings. This improved performance:

- Reduces cooling costs in the bulk tank
- Helps maintain milk quality
- Helps reduce the temperature of the milk entering the bulk tank to within 4° F of the incoming cold water temperature.

### ROBOTIC MILKING SYSTEMS (RMS):

Robotic milking combines a milking stall, computerized milking machine, robotic arm assembly, milking pump, teat identification, cleaning equipment, steam cleaning and a feed dispenser all in one stall. Each stall can milk an average of 55-65 cows per day. Benefits include:

- Information and connectivity
- Increased milk production
- Efficient labor management

### REBATE OVERVIEW:

Equipment Type	Rebate Amount
Dairy plate cooler	\$2/cow
Milk Pump VFD	\$2/cow
Robotic milking system (RMS)	\$2,500/stall
Vacuum Pump VFD	\$20/hp

### VACUUM PUMP VFD:

Milking vacuum pumps are sized to deliver the required maximum vacuum level to operate the milking and washing systems. The VFD determines exactly how much vacuum the system requires and regulates the speed of the pump. The result is a pump that runs at a much lower speed most of the time and requires substantially less electricity to do the job.

### HOW DOES IT WORK?:

Meet with Stearns Electric's Energy Services Department to set up a plan and they will recommend the best actions to make your farm more energy efficient.

### CONTACT US:

If you have any questions or need assistance in making these savings a reality for your business, please contact Stearns Electric's Energy Services Department at (800) 962-0655 .



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## Rebate Application

### BUSINESS MEMBER INFORMATION

Name \_\_\_\_\_ Account # \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_ Phone \_\_\_\_\_

### APPLICATION CHECK LIST

Rebate application with signature     Itemized project invoices (labor & materials)     Equipment specifications

### DAIRY REBATES

Equipment	# of Cows	(\$/cow/day)	# of lbs milked per cow/day	Project Cost	Total Rebate
Dairy Plate Cooler		\$2			\$0

Equipment	# of stalls	(\$/stall)	Project Cost	Total Rebate
Robotic Milking		\$2500		\$0

Equipment	Horsepower	(\$/cow/day)	\$/horsepower	Project Cost	Total Rebate
Vacuum Pump VFD			\$20		\$0
Milk Pump VFD		\$2			\$0

### WARRANTY INFORMATION

Rebate qualifications do not imply any representation or warranty of such equipment, design or installation by Stearns Electric Association. The Cooperative shall not be responsible or liable for any personal injury or property damage caused by this equipment. The Cooperative does not guarantee that a specific level of energy or cost savings will result from the implementation of energy conservation measures or the use of products funded under this program. In no event shall Stearns Electric Association be liable for any incidental or consequential damages.

### ADDITIONAL PROGRAM RULES

1. Evaluation must be complete before funds will be issued for the rebate.
2. Members and vendors must submit itemized equipment invoices, along with rebate application and worksheet, to the cooperative. To ensure that the equipment installed meets the cooperative's performance standards, these invoices must itemize labor charges, quantity and price of the equipment installed, as well as information regarding the manufacturer and model numbers for all equipment included in the rebate.
3. Rebates must be applied for within 12 months of invoice date.
4. Stearns Electric Association reserves the right to conduct random inspections of installations.
5. Project must comply with all program specific rules and qualifications.
6. The member is responsible for checking with Stearns Electric Association to determine funding availability and to verify program parameters.

### MEMBER SIGNATURE

The undersigned does hereby certify that the undersigned is solely responsible for the accuracy of the information contained in this application. All rules of the program have been followed and the installation is complete. The undersigned acknowledges that nothing contained in the application imposes any liability on Stearns Electric Association for the work performed and information presented by the member, member's engineer, contractor or vendor. The undersigned also authorized payment of incentive directly to the specified rebate recipient.

**Rebate applications due no later than Friday, November 19, 2026.**

Member Signature \_\_\_\_\_ Date \_\_\_\_\_

*Rebate program is subject to change or cancellation without notice.*

