

Minnesota Fact Sheet 374d Farmstead Energy Improvement Motors and Controllers

Purpose

The purpose of this practice is to implement improvements to reduce or improve energy efficiency of on-farm energy use.

Motors and Controllers

Variable Speed Drive



A variable speed drive varies the speed of an electric motor in order to more closely match demand and reduce energy consumption. They are especially useful on equipment that runs intermittently because they can reduce on/off cycling of the

motor which reduces wear on the motor and can extend equipment life.

Besides the energy savings benefit of VSD controllers, another benefit to installing a VSD on a vacuum pump on a milk harvesting systems is that they help to provide more constant pressure through the system which can aid in cow comfort.

Automatic Controller System

Temperature and moisture sensors can be integrated into an automatic controller system to more efficiently regulate systems such as ventilation and heating systems in order to maintain desired environmental conditions in a livestock facility. This helps to ensure that the systems are operated only when needed and reduces energy that is wasted by the system.

Motor Upgrade

Electric motors are used to run various types of equipment in agricultural facilities, including ventilation fans, pumps, and material handling equipment. Replacing older less efficient motors with NEMA premium high efficiency motors can significantly reduce energy consumption.