INFLUENCE FREQUENCIES FOR TECHNOLOGICAL AND ENERGY CHARACTERISTICS CREAMER

V. Ramsh

The influence of frequencies for angular velocity, technological and energy characteristics of milk separators. The dependences performance since static resistance milk separator and the specific power consumption of frequencies.

Milk separator, power, frequency, power, food-ness, static resistance point, the specific consumption of electricity.

Deviations frequencies of normalized values is a violation of the normal course of technological processes, production of substandard products, reducing the service life of electrical equipment, increase power losses in the power system, emergency situations, dangerous to human life. [1]

Dairy separators used for separating cream from skimmed. If you change frequencies changing angular speed of the motor, which in turn causes a change of process and power characteristics of working machines [2].

The purpose of research - to determine the effect on the frequency deviation current technological and energy characteristics of milk separators.

Materials and methods of research. The analysis of the angular velocity milk separators and electric energy loss when changing frequencies was performed using the theory of electric relating to electromechanical properties of asynchronous electric motors, power transmission characteristics of working machinery, electric power and steady application of mathematical modeling.

In experimental studies, the frequency of the current change via frequency converter firm "Mitsubishi" and determined angular velocity, productivity, time static resistance milk separator and expected specific consumption of electricity.

Results. If you change frequencies engine runs on the working area of the mechanical characteristics. It can be assumed that the mechanical characteristics of the engine in it linear /

Mechanical characteristics of the milk separator has a fan shape. Experimental studies have shown that the performance and the moment of static resistance milk separator at switching frequencies vary in a quadratic law.

Rejection frequency asynchronous electric current causes changes in fixed and variable power losses.

In dairy separators point static nonlinear resistance depends on the angular velocity, so the expression for the determination of power losses in switching frequencies are quite complex. Since the switching frequencies slipping virtually unchanged, the speed difference will be:

Thus, lower frequencies causes a decrease in the proportion of electricity consumption in milk separators, and its increase - growth.

Conclusions

If you change frequencies and performance point static resistance milk separators vary in direct proportion to the square of frequencies. At lower frequencies of 2% milk separators and performance specific power consumption reduced by 4%.