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AUTOMATIC CONTROL OF THE ALCOHOL PRODUCTION PROCESS ANALYSIS OF SYSTEMS

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ABSTRACT: This article analyzes the automatic control systems of the alcohol production process, and gives relevant recommendations.

Keywords: Automatic adjustment system, object, automatic control, adjustment object, heat exchanger.

Introduction: Ethyl alcohol and rectified from food raw materials of the alcohol industry alcohol is produced. Alcohol made from edible raw materials only not in the production of drinks containing alcohol, but folk also in the fields of Medicine, radio electronics, perfumery and other areas of the economy used. Most of the alcohol used in technical work is mainly food hydrolysis of plant substances that are not used for and in various chemical methods obtained by synthesis. Today within the framework of this line many companies develop and design the following technologies they entered:

Technological processes of the food industry (TP) related devices, lots, made on machines called automation objects carried. These are dynamic systems, with a number of their timely actions current values of characteristic technological quantities-temperature, current, degree, different quality is determined by indicators. The condition for obtaining high-quality products is to store quantities in given values called known, nominal.

One row for external reasons (raw material quality and consumption, heat and refrigerant changes in parameters and others) or occur in the hardware itself phenomena (changes in the conditions of heat transfer from surfaces and others), these are the values can deviate from the specified values, which makes the process leads to deterioration. All these effects that disrupt the course of TP are called perturbations. Therefore, it is necessary to control the process. Management is the targeted exposure to an object, its optimal or specified mode of operation provides. The value of an optimally controlled variable or its the replacement program is not predetermined, but the corresponding optimization the solution of the problem is determined as a result.

A special case of management is regulation - management to the object to ensure its normal operation by applying its movements, the object's keeping output values close to given constant or variable values. Automatic to keep the output values of the object close to the desired values automatic, which is part of a dynamic system called a control system it is carried out by the manager.

According to several criteria in the automation of technological processes different types of ARs are used that can be classified.To the principle of regulation according to, Ars are divided into those that work with deviation, distortion and combination. The most commonly used ARS, called a circuit, works on the deviation of the managed value from the specified value of the hundred (figure 1.2, a). It has when deviation (y - uz) occurs, the controller defines the controlled value generates a regulatory action on the object to convey to the value. Such Regulatory action in Ars regardless of the number, type and location of violations is done. The arcs are closed, the controller tells them to the principle of negative feedback of an object that is appropriately introduced, i.e. the signal being modified is regulated it is transmitted from the exit to its entrance. let uzd = 0, then the adjustable y (t)is we consider the value to be a deviation from the specified value.

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In disturbance regulation (figure 1.2, B) ARv controller z1 main receives information about the current value of the annoying effect. When it changes and hrv directed to the controlling object if the z1zd does not match the face value generates control movement. In such ARSS, the annoying effect of the object is it can be covered even before the appearance of a deviation at the exit. Usually such ARs are built according to the main perturbations, for example, according to the load of the object. Cargo - energy consumed during the technological process in an object or the amount of substance. The control cycle of such an Ars is controlled y does not receive signals about the current value of the variable. The lion does not respond to its changes as a result of violations. Ars it is an open period in response to riots.

To the nature of the change in the specified value of the regulated value according to, Ars are divided into automatic stabilization systems, in which the specified value is permanently fixed, the specified value of the controlled variable pre-established law-which changes over time according to the program software control systems, the barrier point of an external independent process variable servo systems with function. Different tracking systems are two quantities of ratio regulation systems, such as the consumption of two products.

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