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PROSPECTS AND AREAS OF EQUIPMENT FOR HIGH-QUALITY RAW MATERIALS DOSAGE IN THE BAKING INDUSTRY

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In the article the basic classification of modern dosing equipment for the baking industry. A range of technical solutions and directions for creating high-performance, compact and energy-saving dosing equipment.

Dose, a group of technical solutions, performance dosing, dosing classification, complex areas of design and modernization dispensers.

Problem. Making any food not do without the main part of the process - the dosage. Today a variety of known structures weigh as periodic and continuous. The most common in the Ukraine became doses periodic operation. The main advantage - high versatility, ease of debugging, maintenance and repair. This dispensers installed in production lines for the production of bakery and confectionery products. Therefore, improvement of existing and development of new mechanisms for dispensing bulk and liquid components are urgent and important task.

Analysis of recent research. When creating construction equipment operations dosage should be rich base

data on the feasibility of a node. This makes it possible to analyze the complexity of technical solutions, the ability to service and repair. In order fulfillment process these technical solutions can be filed by the following groups:

- Download and regulatory filing loose and liquid components to the dispensing equipment;
- Choosing the structure and parameters of the equipment;

- The choice of qualitative and constructive method dosing;
- Organization dispensing qualitative way.

Properties and structural characteristics of dosing equipment at various times involved a number of inventors. Particular attention was paid to work on research opportunities metering process intensification dispensing liquid and loose components, evaluation and selection of rational parameters of nodes and modes. Established that dosing equipment is a complex system, as inherent, structural complexity, the complexity of the operation, the complexity of choice behavior in many situations alnernatyvnyh and complexity of development [1].

Simultaneous and interrelated course batching process is a major factor that complicates the quantitative estimation of production. Thus, the process quality dough process is accurate batching and mixing them evenly. From batching process specified number of raw materials or semi-finished dependent process duration and quality of products, the value of power consumption. Thus, the exact dosage of components is a necessary condition to obtain not only high-quality mix, but stable compliance process in the manufacture of food products. The quality of the mix - is to maintain the accuracy of dosing installed at a rational mechanical impact on the structure of materials, providing implementation recipes and is a source of raw material savings. Therefore, all technological and structural indicators batching can be divided:

1. indicators periodically proviryayutsya laboratory plant and have a clear meaning;

2. indicators periodically proviryayutsya directly to the dosing station and have a clear meaning;

3. The indices are calculated and depend on the physical and chemical properties of materials, method of dosing type dispensers;

4. indicators that determine the classification dispensers, their purpose, principle of the method and dosage;

5. The parameters that determine a dose adjustment of raw materials: the change in mass or volume; area of the outlet; exit velocity and duration of dosing of raw materials;

6. indicators that define the requirements process, batch or continuous dosing; single or multi;

7. The parameters that define the elements of the dispenser, feeder drive mass measuring device, the device registration and regulation of the actuator.

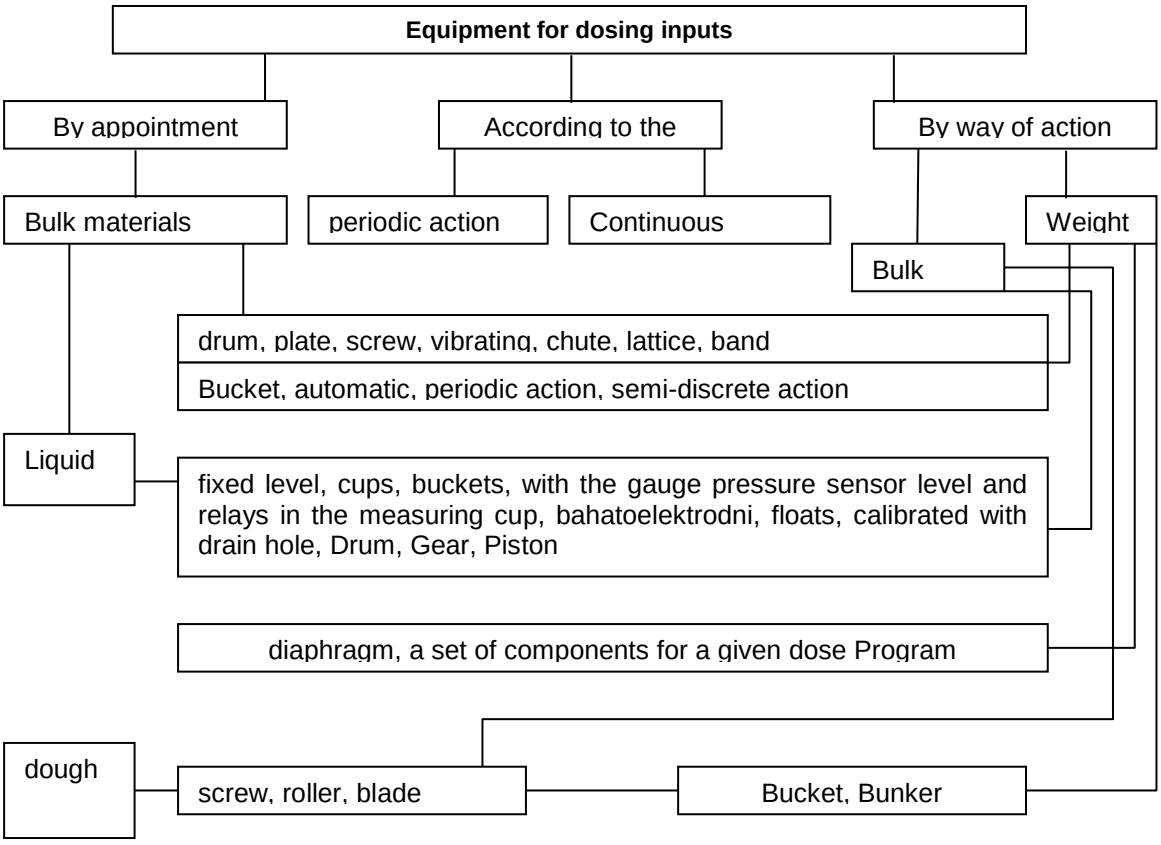
Based on technological and constructive parameters of the existing metering technology to raw materials dosage, the proposed block diagram. The classification dispensers, put their purpose, principle of the

method and dosage (Fig. 1), which are thoroughly described OT Lisovenko [2].

In this structural diagram should be noted that multi-dosage depending on the conditions of production can be performed in parallel or sequential dosing of each component in a separate dispenser (dosing station), combined dosage. In multi dozatorah dosing can maintain the ratio of ingredients or correction of automatically using the program. Dispensers discrete action with the general design of the bunker type, continuous - bunker and belt type.

Results. Based on industry experience and food processing plants and analysis of the literature regarding the filling equipment, should be allocated as follows:

- Filling Equipment that is most often used in the food industry used without specific industry. So sometimes they do not provide the required setting works great with metal and energy.
- Existing methods require fairly large dosage dynamic loads, which reduces the reliability of equipment.
- For reliability of filling equipment must be installed auxiliaries - silo or tank pressure.
- Existing types of dosing equipment, which was implemented idea compatibility several operations, enabling better use of industrial areas, makes it difficult to service, reliability and quality.



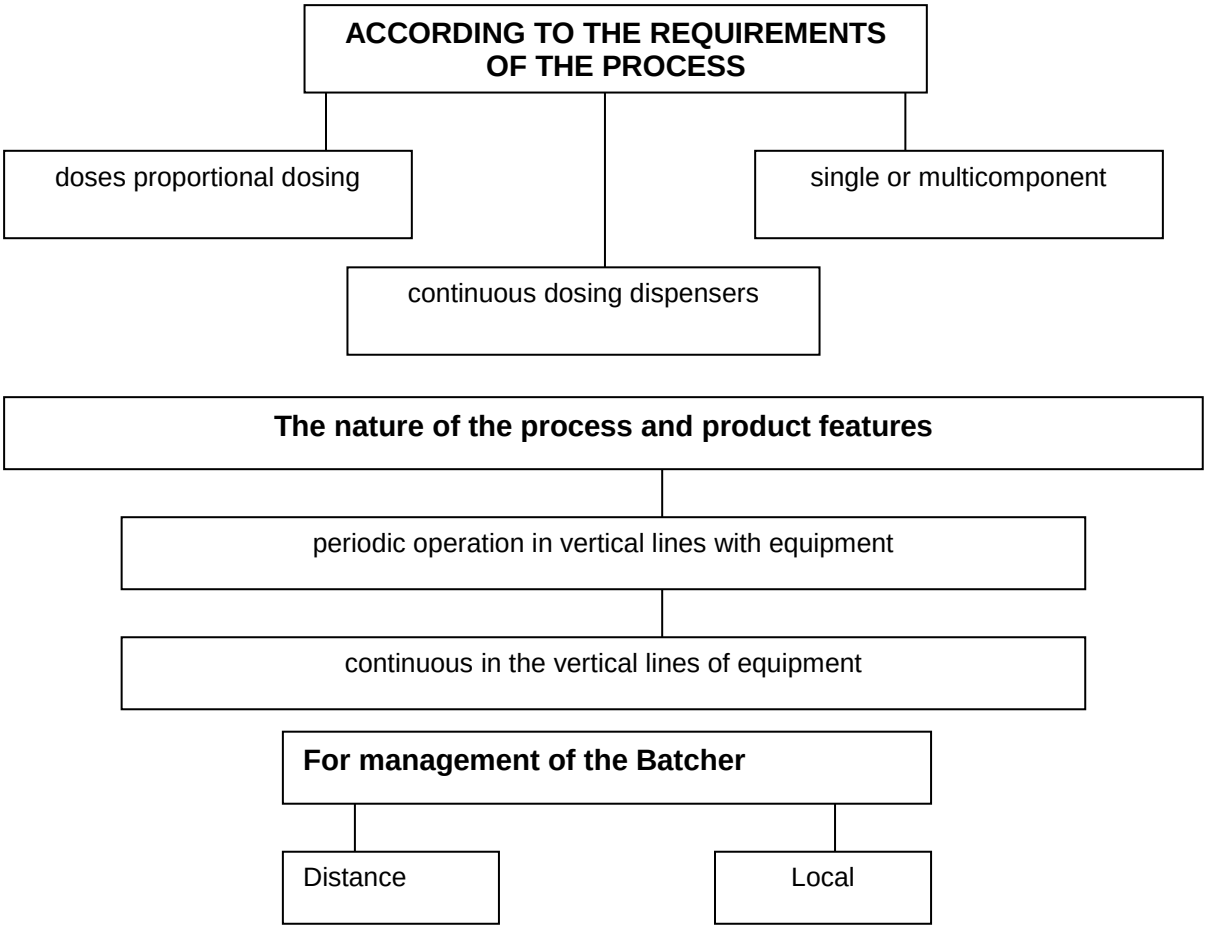


Fig. 1. Classification scheme dispensers used in the baking industry.

Today, volume and weight are a set of sensors monitoring devices for material feeding and automatic control dose or mass flow. The main constituent elements dispensers, feeder drive mass measuring device (sensor), device registration and regulation of the actuator. It is envisaged that the dose adjustment you can change its mass, area outlet, product yield rate, duration of dosing.

Given the significant uncertainty conduct processes of dosage components necessary to provide a set of directions and future schemes in their design or modernization:

- reliable automation system;
- Use washable containers damper tract;
- ease of manufacture and maintenance;
- interchangeability of basic units, working bodies.

Synthesis methodological approach to science - sound towards the establishment of metering equipment in accordance with the requirements of modern rationality on implementation process is to ensure:

- the rational dosing schemes;

- determine the conditions to ensure the accuracy and stability prescription composition;
- development and the rational methods and technological schemes and methods of dispensing machine and the automation equipment design;
- determine the conditions most effective mechanical action organ working on a dosing material;
- establishing factors that determine the rationality and effectiveness ways mechanization and automation of process dosing;
- developing methods of calculating basic technological parameters metering volume and weight action;
- development of operational management simple and reliable methods for the regulation and control of dosing regimens material;
- determine the conditions obtaining prescription homogeneity of the mixture in the initial stages of dosing;
- enabling determination of additional factors: vibration, the contact area of the material for accuracy and duration of dosing;

Conclusion. Generalized complex main areas aimed at creating a high-performance, compact and energy-saving dosing equipment that should differ simplicity performance and reliability, and adaptability to operate.

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In this article pryvedeny Basic Classification sovremennoho dozyruyuscheho hlebopekarnoy equipment for industry. Predlozheny tehnycheskye and complex solutions aimed to the creation vysokoэffektyvnoho, compact and energy-sberehayuscheho dozyruyuscheho equipment.

Dosage, Group tehnycheskyh solutions, indicators dozyrovanyya, classification dozatorov complex right-mined Design and modernization dozatorov.

In paper the basic classification of current dosing equipment for the baking industry. A range of technical solutions and directions for creating high-performance, compact and energy-efficient dispensing equipment.

Dosage of technical solutions, performance dosing, dosing classification, complex areas of design and modernization of metering.