

**МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
СУМСЬКИЙ ДЕРЖАВНИЙ УНІВЕРСИТЕТ
ФАКУЛЬТЕТ ІНОЗЕМНОЇ ФІЛОЛОГІЇ
ТА СОЦІАЛЬНИХ КОМУНІКАЦІЙ**



СОЦІАЛЬНО-ГУМАНІТАРНІ АСПЕКТИ РОЗВИТКУ СУЧАСНОГО СУСПІЛЬСТВА

**МАТЕРІАЛИ ВСЕУКРАЇНСЬКОЇ НАУКОВОЇ КОНФЕРЕНЦІЇ ВИКЛАДАЧІВ,
АСПІРАНТІВ, СПІВРОБІТНИКІВ ТА СТУДЕНТІВ**

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to overcome some of your fears and doubts, learn more and perhaps travel to places you would have never dared to visit before, you'll meet new and interesting people and develop life-long friendship. It's never too late to study. A research from the University of Illinois at Chicago shows that adults learning a foreign language are completely capable of becoming highly proficient in it. There's really no reason not to learn another language. Even if you like your current job and find your pay suitable, don't you want at least to stave off memory loss and make better decisions just to have fun and benefit from it?

RESEARCH OF THE WORKING MODEL OF VORTEX WEIGHTED LAYER IN THE GRANULATOR

K.V. Moskalenko, *ASP-42*
(*Sumy State University*),
A.M. Diadechko, *ELA*
(*Sumy State University*)

At small enterprises, with the average productivity in the production of granular products, it is advisable to use weighted layer granulators. Such apparatus has a relatively smaller size and a simple structure, and consequently, lower cost of material, energy and labor resources than other types of granulating machines. The main disadvantage of this type of equipment, is a low stability of the weighted layer. The developed granulators of vortex-weighted layer can prevent this deficiency and improve hydrodynamics of apparatus workspace.

Using swirling flows leads to the stabilization of flows, improves the efficiency of heat and mass transfer processes and the alignment of the temperature irregularities. Swirl flows of working fluid is one of the simplest and most common way of intensification of heat and mass transfer.

When designing vortex granulator of weighted layer, a lot of attention is given to the study of optimal mode of work, which in the future will determine the main factors, influencing the development of flows swirl of the working fluid. Therefore, this question is relevant.

In the study of operating modes of the vortex-weighted layer, special focus is given to the investigation of the pressure loss on fluidized bed of dispersed material (hydraulic resistance of a weighted layer).

On the basis of experimental data the main modes of the_vortex weighted layer have been identified. The nature of the granules in each mode was also studied. These studies make it possible to determine the main factors, which affect the development of a swirl flow in the working fluid, to predict the trajectory of the granules in the working space of the granulator, to choose the optimal residence time of the dispersed phase.

COMPARISON OF ENERGY LOSSES IN DESIGNS OF HERMETIC PUMPS

O.M. Moloshnyi, *ASP-42*
(*Sumy State University*),
A.M. Diadechko, *ELA*
(*Sumy State University*)

Modern chemical and oil production is characterized by stringent environmental regulations. Most of the equipment in the technological cycle must be hermetic. Serious problem is the energy efficiency of equipment.

The purpose of the work is to analyze the energy losses characterizing the typical designs of hermetic pumping units.

The most popular typical design of hermetic pumping units are a sealed pump, a canned motor pump, a pump with a wet stator and a pump with a magnet coupling.

A sealed pump is not completely hermetic and is characterized by the loss of energy in friction in the seals and loss of magnetic energy in the gap electric motor.

A canned motor pump is characterized by the loss of energy in friction of fluid in the gap between a rotor and a stator of the motor. However, the biggest losses of energy are in the motor can.

A pump with a wet stator is characterized by loss of energy in friction of fluid in the gap between a rotor and a stator and the loss of magnetic energy in the electric motor gap.

A pump with a magnet coupling is characterized by the loss of energy in friction of fluid in the gap between a rotor and a stator in the magnet coupling. However, the biggest losses of energy are in the magnet coupling can. In