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### **ASPECTS OF USING THE FORMING SHAKING MACHINE AND INCREASE IN ITS WORK EFFICIENCY FOR OBTAINING HIGH-QUALITY MOLDS**

With the help of various casting methods, complex workpieces with various configurations are obtained with the maximum approximation of their shape and dimensions to the shape and dimensions of the part obtained with the help of various casting alloys, such as cast iron, steel and alloys of non-ferrous metals. At the same time, the metal utilization ratio is up to 75...98%.

At present, it is necessary to form half of the forms a lot of time, a lot employees and energy costs.

When compacting the molding mixture by shaking, the table of the machine together with the pile rises to a height of 30/100 mm and, falling from this height, hits an obstacle. Compaction of the forming mixture into blocks occurs at the moment of impact of the table on the machine bed under the action of the forces of inertia of the mixture.

Compressed air is widely used in foundry production for the mechanization and automation of technological processes due to the known advantages of pneumatic devices when performing various types of work. The range of pneumatic equipment used in foundries is quite wide and includes: forming machines, tamping machines, hammers, concrete breakers, dispensers, runners, pushers, punching grids, etc. The pressure and air flow, which provide passport characteristics, are different.

Compressed temperature air in the pneumatic network has different value depending from climatic conditions, region application of machines, performance characteristics compressor installation and distribution pneumatic energy, etc. One of measures of savings electricity during production and use compressed air is him heating that lowers gas consumption.

Compressed temperature air also affects the energy characteristics and temperature field of pneumatic machines. Famous examples n heating air for hammers, fuel injectors and foundry machines.

Significant losses pneumatic different energies climatic and operational conditions lead to the fact that value costs air and performance characteristics pneumatic mechanisms and machines significantly are different from passport data. That's why there is relevant research in production conditions pneumatic economy and work characteristics pneumatic devices for the purpose of promotion efficiency production, distribution compressed air and operation pneumatic equipment, receiving actual data of costs air concrete receiver energy.

Thanks to implementation two formative shaking machines, which will be built into the automated line, this will provide us with savings costs, labor capacity labor and working conditions.

It is shown that amplitude and frequency of oscillations, height on the table, expenses air increase with increasing pressure compressed air in the range from 0.30 to 0.55 MPa. When increasing load, amplitude oscillations and height when lifting the table decreases , and the frequency of blows is growing

It is recommended exploit molding machine under pressure compressed air is not less than 0.55 MPa, which will allow p to increase energy characteristics of the machine and degree consolidation mixtures, exclude unstable mode of operation shakes mechanism for loads on the table .

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### **MANUFACTURING OF COMPOSITE MATERIAL OF ABRASIVES COMPOSITION – METAL BINDER USING SPS TECHNOLOGY**

The production of composite materials based on abrasive-metal systems using Spark Plasma Sintering technology (SPS) is one of the modern approaches that is intensively developing. In our case, the electric current sintering technology involves the use of rectified direct current. During the production of composite materials, the presence of solid inclusions