

DEVELOPMENT GAS-GENERATING BOILERS FOR HEAT IN AGRICULTURE BY USING BIOWASTE

V. Matviychuk, N. Veselovska, O. Rubanenko, O. Dmitrishen

In the paper we investigate the structure of gas-generating boilers. Into account the experience of other countries in their use. Improved circuit structure gasification boiler. For the proposed scheme is made gasification boiler and empirically established its characteristics. The possibility of using gasification boiler as CHP.

To form the flanges on the body and cover of the boiler and separate flange elements we have developed a process of rotary flange. In general, the application processes flange and a rotary compression forming annular grooves can significantly minimize the manufacturing cost of the basic elements gasification boiler. Formation time is 30-60 with a flange. Dimensional accuracy of manufactured parts depends mainly on the accuracy of the mandrel. Deviation of the preform wall thickness at the portion forming the plastic does not exceed 0.03 mm, which provided a spring-loaded shaft. Roughness of the machined surface of the workpiece does not exceed the values. For other types of tolerances and radial runout, cylindricity et al., These products fully comply with the technical requirements.

An important step of making the body of the gas generator and the formation of circumferential grooves on it. To this end, we have developed a process of compression obkochivaniem housing cylindrical rollers.

The process of compression obkochivaniem proved to be stable and productive, but accompanied by a significant thinning of the wall in the area of education of the annular groove. Therefore, the development process was to determine the parameters obkochivaniya, ensuring the formation of the maximum depth of the groove while minimizing local thinning of the wall and prevent the destruction of the material.

By experimental studies analyzed the effectiveness and efficiency of gasification boiler and found that 5.3 kg of solid wood, it is possible to heat and bring to a boil 180 liters of water for 2 hours, of which 30 minutes left on the nominal value of the boiler operation. In this mode, the heating boiler burns from 40 kg to 60 kg of solid wood per day for heating of 200 m². Fuel consumption depends on the ambient temperature.