

Experience of two-stage pyrolytic conversion of biomass into synthesis gas

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The report presents the test results of a demonstration unit “Pyroenergy-5” designed for processing various types of biomass into high-quality synthesis gas in accordance with the method of two-stage pyrolytic conversion of biomass into synthesis gas developed at the Joint Institute for High Temperatures of the Russian Academy of Sciences, combining pyrolysis of raw materials and subsequent high-temperature cracking of volatiles in a fixed bed filled with coke-ash residue.

The results obtained confirm the design characteristics of “Pyroenergy-5” and show the possibility of further scaling of devices of this type. The reported study was funded by RFBR, project number 20-08-00835 and by the Ministry of Science and Higher Education of the Russian Federation (State Assignment No.075-01056-22-00).