METHOD AND DEVICE FOR USING OXYGEN IN THE STEAM REFORMING OF BIOMASS

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The invention relates to a fluidised bed reactor for the gasification and/or pyrolysis of solid fuels, preferably biomass, having a heater for heating the fluidised bed of the fluidised bed reactor, the heater having at least one cavity. The invention furthermore relates to a method for the gasification and/or pyrolysis of solid fuels, preferably biomass, in a fluidised bed reactor, preferably of the type mentioned above.

The first step in the production of synthesis gas from biomass by means of steam reforming is endothermic. Energy must therefore be input into the process. This can be done by partial combustion of the biomass. The delivery of oxygen into a reactor at a temperature level of about 800°C is not simple, however, because owing to a large oxygen supply, temperatures can be reached locally which are so high that they cause melting of the ash components of the biomass. For this reason, either the oxygen must be diluted with steam or nitrogen or the biomass must be provided as a small fraction in the inert bed material in the form of small coke particles, which transmit the heat to the bed material. Fluidised bed reactors are therefore usually operated with air.