

) DVW HQWUDLQHG ELR RLO SURGXFWRQ LQ DQ HQWUDLQHG

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Bio-oil produced from biomass fast pyrolysis could constitute an alternative to fossil liquid fuels, especially to be combusted for local district heating. So far, only few studies have dealt with bio-oil production by biomass fast pyrolysis in an entrained flow reactor [1], yet it could constitute an alternative to the better-known fluidised bed pyrolysis process. In the context of the BOIL project with the CCIAG Company (Grenoble district heating), a new pilot based on an entrained flow reactor concept has been designed [2]. The pilot design has been carried out on the basis of woody biomass fast pyrolysis experiments and modeling performed in a drop tube reactor as a first step laboratory-scale study, and also CFD modeling [2-3]. The facility is composed of a biomass injection system with a hopper and a feeding screw, an electrically heated pyrolysis reactor, a cyclone to separate gas and char, 3 heat exchangers to cool the gas (at 30°C, 0°C and 0°C respectively) and condense bio-oil, and