

ABSTRACT

**APPARATUS FOR CONDUCTING A HYDROTHERMAL CARBONISATION
REACTION**

In hydrothermal carbonisation, the carbonisation reaction takes place in a reaction tank at high pressure and high temperature and with feed of steam. Because reactor charging takes place using a batch method, the biomass should be kept on hand in a pulper beforehand and heated there in advance. By contrast, slurry that leaves the reactor should be subsequently cooled in a buffer tank.

For this purpose the invention proposes linking the cooling of the slurry and the preheating of the biomass. Accordingly, a heat exchanger in the pulper and a further heat exchanger in the buffer tank, which are connected to form a heat circuit, are to be available. Thus, the slurry to be cooled can deliver its heat to the biomass to be heated up, with the effect that significantly less energy leaves the system and has to be resupplied to it at a different place.

(Fig. 2)