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(54) Title: HYDROTHERMAL OXIDATION PROCESS

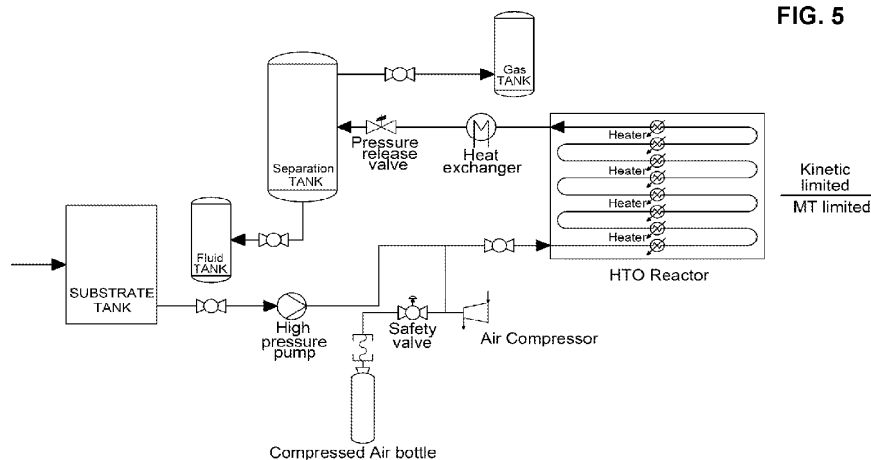


FIG. 5

(57) Abstract: The present disclosure provides a process and apparatus for the hydrothermal oxidation of organic matter. The process comprises pumping organic matter in an aqueous stream into a first section of a reactor, pumping a gaseous oxidant into the first section of the reactor, maintaining conditions in the reactor at pressures in the range of about 2 to about 250 bar and temperatures in the range of about 100 to about 373°C, subjecting the organic matter in an aqueous stream and the gaseous oxidant to high intensity mixing in the first section of the reactor, transferring the organic matter in the aqueous stream and the gaseous oxidant into a second or subsequent substantially horizontally arranged tubular section of the reactor, where at least some of the organic matter containing aqueous stream is in a liquid phase and at least some of the gaseous oxidant is in a gas phase, and maintaining the rate of travel of the liquid phase through at least part of the second or subsequent section of the reactor at a maximum velocity of about 0.1m/s, or maintaining the Reynolds number of the liquid phase travelling through at least part of the second or subsequent section of the reactor between about 0 and about 10000.

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