

Title (en)

DEVICE FOR GENERATING COMBUSTIBLE PRODUCT GAS FROM CARBONACEOUS FEEDSTOCKS

Title (de)

VORRICHTUNG ZUR ERZEUGUNG VON BRENNBAREM PRODUKTGAS AUS KOHLENSTOFFHALTIGEN EINSATZSTOFFEN

Title (fr)

DISPOSITIF DE PRODUCTION D'UN PRODUIT GAZEUX COMBUSTIBLE À PARTIR DE MATIÈRES DE CHARGE CARBONÉES

Publication

EP 2207616 B1 20110803 (DE)

Application

EP 09763905 A 20091118

Priority

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Abstract (en)

[origin: US2011259556A1] A device is provided for generating combustible product gas from carbonaceous feedstocks through allothermal steam gasification in a pressurized gasification vessel. The pressurized allothermal steam gasification of carbonaceous fuels requires that heat be supplied to the gasification chamber at a temperature level of approximately 800-900° C. In a heat pipe reformer, as is known from EP 1 187 892 B1, combustible gas is generated from the carbonaceous feedstocks to be gasified through allothermal steam gasification in a pressurized fluidized bed gasification chamber. The heat needed for this is fed to the gasifier or reformer from a fluidized bed combustion system through a heat pipe arrangement. Due to the straight and tubular construction of heat pipes, the combustion chamber and reformer/gasification chamber are disposed one above the other in the known heat pipe reformer from EP 1 187 892 B1. The pressure vessel base is under particular stresses due to the high temperatures in the combustion chamber. In addition, the base is weakened by a plurality of heat pipe feedthroughs. The sealing of the feedthroughs also presents a problem. In conventional tubular heat pipes, the line for liquid heat transfer medium and for gaseous heat transfer medium are both disposed in the common tubular shell. The fact that the present invention uses loop heat pipes in which the liquid heat transfer medium is conveyed spatially separated from the gaseous heat transfer medium allows the number of feedthroughs to be reduced to two, namely a liquid line and a vapor line. When a plurality of such loop heat pipes is used, the separate vapor and fluid lines thereof can be combined in the

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