

Title (en)  
REACTOR AND PROCESS FOR GASIFYING AND/OR MELTING OF FEED MATERIALS AND FOR THE PRODUCTION OF HYDROGEN

Title (de)  
REAKTOR UND VERFAHREN ZUM VERGASEN UND/ODER SCHMELZEN VON EINSATZSTOFFEN UND ZUR HERSTELLUNG VON WASSERSTOFF

Title (fr)  
RÉACTEUR ET PROCÉDÉ DE GAZÉIFICATION ET/OU DE FUSION DE MATIÈRES D'ALIMENTATION ET DE PRODUCTION D'HYDROGÈNE

Publication  
**EP 4026885 A1 20220713 (EN)**

Application  
**EP 21150408 A 20210106**

Priority  
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Abstract (en)  
The present invention relates to a reactor (100) for the gasifying and/or melting of feed materials. The reactor comprises: a co-current section (110) comprising a plenum section (111), comprising a feed section with a sluice (112), wherein feed materials are introduced into the reactor (100) from above via the feed section, a buffer section (113), a pre-treatment section (114), which adjoins a bottom of the buffer section (113) to create a cross-sectional enlargement, and an intermediate section (115) adjoining the pre-treatment section, an upper oxidation section (116) adjoining a bottom of the intermediate section and comprising tuyeres (117), and an upper reduction section (118) adjoining a bottom of the upper oxidation section (116), a gas outlet section (120) comprising at least one gas outlet (121) and at least one tuyere (151) for steam or water injection for creating a post-gasification section (150) within the gas outlet section, and a post-gasification section (150), and a countercurrent section (130) comprising a conical lower reduction section (138) adjoining the gas outlet section (120) and a conical lower oxidation section (136) adjoining the lower reduction section (138) comprising at least one tuyere (137) and at least one tapping (131).

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Citation (applicant)  
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