

Title (en)  
DUPLEX-TEK MULTI-STAGE GASIFIER

Title (de)  
DUPLEX-TEK-MEHRSTUFEN-VERGASER

Title (fr)  
GAZÉIFICATEUR MULTI-ÉTAGÉ À LIT DE CARBONE À EXPANSION TOURBILLONNAIRE DUPLEX

Publication  
**EP 3535356 A1 20190911 (DE)**

Application  
**EP 17808306 A 20171024**

Priority  
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Abstract (en)  
[origin: WO2018082738A1] The invention relates to a Duplex-TEK multi-stage gasifier and to a method for the autothermal operation of a gasifier of this kind in an overall system for the thermal decomposition of an organic carbon-containing material into a tar-free combustible gasification gas. The problem addressed by the present invention, namely that of specifying a gasifier that avoids the disadvantages of the prior art and enables a tar-free combustible gasification gas to be produced from a carbon-containing material, is solved in that a Duplex-TEK multi-stage gasifier, consisting of a pre-gasifier (1) and a main gasifier (2), is provided that is used in conjunction with a downstream heat exchange cyclone (61), a downstream main heat exchanger (66), a gasification means mixing section (71), an oxygen supply (87), control section oxygen (88), oxygen pre-heating (74), an oxygen-air mixing section (89) and with a gasification means heater (76), a hot gas generator (77), a process ventilator (83) and a process control unit in an overall system, using recuperative heat recovery for the gasification process.

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