

Title (en)  
COMBINED STEAM-GAS TURBINE CYCLE

Publication  
**EP 0249255 B1 19890118 (DE)**

Application  
**EP 87200488 A 19870317**

Priority  
DE 3612888 A 19860417

Abstract (en)  
1. Process for carrying out a combined gas turbine/steam turbine process in which the gas turbine process is carried out by means of a fuel gas which has been obtained from solid carbonaceous material and subsequently de-sulphurated, and the steam turbine process is carried out by means of the steam obtained upon combustion of the carbonaceous gasification residue, and in which the combustion of the carbonaceous gasification residue takes place with oxygen-containing waste gases from the gas turbine process, characterised in that the fuel gas is produced in a circulating fluidised bed by gasification of 70 to 95% weight of the carbon content in the carbonaceous material at a temperature of 900 to 1,100 degrees C, is freed of pollutants at 850 to 950 degrees C in the suspended state with calcium hydroxide, calcium oxide and/or calcium carbonate-containing solid, and is burned for the predominant part for the operation of the gas turbine to produce a gas containing at least 5% vol. oxygen and being at 1,000 degrees C at least, the combustion of the carbonaceous gasification residue being carried out under near-stoichiometric conditions with the production of process steam in another circulating fluidised bed at a temperature of 800 to 950 degrees C with oxygen-containing gases which are supplied in at least two sub-streams at different levels, which are predominantly formed from the gas turbine waste gas.

IPC 1-7  
**F01K 23/06**; **F02C 3/20**; **F02C 3/28**; **F23C 6/04**

IPC 8 full level  
**F02C 6/18** (2006.01); **F01K 23/02** (2006.01); **F01K 23/06** (2006.01); **F02C 3/20** (2006.01); **F02C 3/28** (2006.01); **F23C 6/04** (2006.01)

CPC (source: EP US)  
**F01K 23/062** (2013.01 - EP US)

Cited by  
CN1304734C; EP0495130B1

Designated contracting state (EPC)  
AT BE CH DE ES FR GB GR IT LI LU NL SE

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**US 4996836 A 19910305**; AT E40182 T1 19890215; AU 586923 B2 19890727; AU 7174987 A 19871022; CA 1297683 C 19920324; CN 1011999 B 19910313; CN 87102746 A 19871104; DE 3612888 A1 19871029; DE 3760042 D1 19890223; EP 0249255 A1 19871216; EP 0249255 B1 19890118; ES 2007290 B3 19900316; GR 3000048 T3 19901031; GR 880300114 T1 19890308; IN 165413 B 19891014; JP H0680294 B2 19941012; JP S62251428 A 19871102; PT 84712 A 19870501; PT 84712 B 19891229; ZA 872750 B 19881228

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**US 42366989 A 19891018**; AT 87200488 T 19870317; AU 7174987 A 19870416; CA 532916 A 19870325; CN 87102746 A 19870414; DE 3612888 A 19860417; DE 3760042 T 19870317; EP 87200488 A 19870317; ES 87200488 T 19870317; GR 880300114 T 19890308; GR 890400050 T 19890419; IN 778CA1986 A 19861023; JP 9062787 A 19870413; PT 8471287 A 19870416; ZA 872750 A 19870416