

Title (en)  
Boiler with external dense fluidised bed

Title (de)  
Kessel mit externer dichter Wirbelschicht

Title (fr)  
Chaudière à lit fluidisé dense externe

Publication  
**EP 0898115 B2 20120613 (FR)**

Application  
**EP 98402063 A 19980814**

Priority  
FR 9710425 A 19970818

Abstract (en)  
[origin: EP0898115A1] The boiler uses a dense fluidised bed in a furnace drum (1). Hot particles fluidised by gas leave the bed at the top of this drum and pass through a horizontal pipe (12) to a second, smaller, drum (2). The solid particles are separated from the gas in this drum. The gas is taken off (20) from the top of the second drum. The solid particles pass from the bottom of the drum into a pipe (23) leading to a heat-exchanger (3). The particles flow past a coil (3A) carrying fluid, especially water and return (31) to the bottom of the furnace drum. The water enters (39) the heat exchanger at the bottom and exits (30) at the top and passes through a second heat exchanger (3B) inside the furnace.

IPC 8 full level  
**F22B 1/02** (2006.01); **F22B 31/00** (2006.01); **F28D 13/00** (2006.01)

CPC (source: EP KR US)  
**F22B 31/0023** (2013.01 - KR); **F22B 31/0038** (2013.01 - KR); **F22B 31/0069** (2013.01 - KR); **F22B 31/0084** (2013.01 - EP US);  
**F22B 31/08** (2013.01 - KR); **F28D 13/00** (2013.01 - EP US)

Citation (opposition)  
Opponent :

- US 4716856 A 19880105 - BEISSWENGER HANS [US], et al
- US 5005528 A 19910409 - VIRR MICHAEL J [US]

Cited by  
WO2009017972A3

Designated contracting state (EPC)  
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

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**EP 0898115 A1 19990224; EP 0898115 B1 20030115; EP 0898115 B2 20120613**; AT E231230 T1 20030215; CN 1118661 C 20030820; CN 1211702 A 19990324; DE 69810717 D1 20030220; DE 69810717 T2 20031023; DE 69810717 T3 20121227; ES 2187908 T3 20030616; FR 2767379 A1 19990219; FR 2767379 B1 19991112; JP H11182802 A 19990706; KR 19990023666 A 19990325; PL 328051 A1 19990301; US 6003476 A 19991221; ZA 987423 B 19990922

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