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VOEST-ALPINE AG

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Synthesis gas prodn. - by central plasma beam in counter flow to feed gas stream in long water cooled reaction chamber

H(4.E4.9.C)

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C85-108850

D/S: BE CH DE FR GB IT LI LU NL SE

Synthesis gases, esp. reducing gases, are manufactured from fuel such as coal, coke, petroleum products, natural gas or coke oven gas on the one hand, and endothermally reacting gases with an oxygen content such as steam and carbon dioxide on the other hand, by reactions of them in a plasma reaction zone. Their mixture is passed as feed gas through a long reaction zone and a central plasma arc is maintained across the entire length of the reaction chamber.

ADVANTAGES

This creates a process of high functional reliability and with the highest possible efficiency even for very high throughputs.

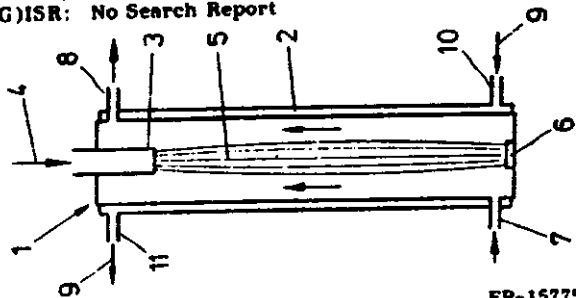
EMBODIMENT

A long reaction chamber (1) is surrounded by a water-cooled jacket (2). Plasma gas, i.e. a rare gas, N_2 , H_2 or

CO_2 is introduced through the electrode (3) which is connected as a cathode, in the direction of arrow (4). The chamber diameter is designed to maintain a plasma beam (5) between electrode (3) and counter electrode (6) without contacting the chamber wall.

The feed gas is fed at the inlet (7) and leaves through outlet (8). Coolant (9) passes through the jacket (2) from inflow (10) to outflow (11). (14pp39MHDwgNol/4)

(G)ISR: No Search Report



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