

Title (en)
Co-current gasifier

Title (de)
Gleichstromflussgaserzeuger

Title (fr)
Gasogène à co-courant

Publication
EP 1329494 B1 20070912 (FR)

Application
EP 03405016 A 20030117

Priority
CH 752002 A 20020118

Abstract (en)

[origin: EP1329494A2] A furnace is formed of the total circular section of the endless screw and the primary oxidizing air arrives in the furnace from outside its circular wall and/or in the center of the furnace. A co-current gasifier comprises an endless screw (1) feeding fresh material to be gasified, with a vertical endless screw (2) transporting material from bottom to top. The gasifier has a furnace at the top of the outlet from the endless screw, a gasification chamber (11) above the furnace and a device (12) for circulating the material which has already passed through the furnace and the gasification chamber and which is not completely gasified. This returns the material to the fresh material to be gasified so it can be sent across the furnace again. At least two gasifiers can be connected side to side and equipped with a collective turning device for the vertical endless screw. Two coupled gasifiers form a base module which itself can be coupled to a number of similar modules to form a gasification device containing a number of gasifiers. The vertical screws for all the gasifiers are driven by a collective turning device such as a horizontal axle (6) placed in the plane of symmetry of each pair of gasifiers, equipped with a helical gear for each pair of gasifiers and driving a gear fixed to the vertical axle of each screw in each gasifier. The feed screw is horizontal and is connected to the bottom of the vertical screw so as to push the material to be gasified to the base of the screw coils. The feed screw is placed in the vertical plane of symmetry for each pair of gasifiers and extends the length of the gasification device, collectively feeding all the gasifiers the device contains. The device for circulating material is a horizontal endless screw which pushes the material which has not yet been completely gasified out of the gasification chamber and returns it in the action zone of a vertical screw carrying the material from bottom to top. The horizontal evacuation screws of the pair of gasifiers are coaxial and feed the material in opposite directions towards the center of the module, where an opening (21) sends it to the vertical screw carrying fresh material. If the directions of rotation of the horizontal evacuation screws is reversed these move the incombustible material which needs to be eliminated out of the gasification device to where this material is removed. At least two modules are coupled together and preferably four or more. The diameter of the vertical transport screw is 100-200 mm and more. The axes of the screws of the coupled pair of gasifiers form an angle between them of alpha between 1-20 degrees.

IPC 8 full level
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CPC (source: EP)
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Cited by
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