Title (en)

COMBINED HOT WATER HEATING AND STRIPPING COLUMN FURNACE AND METHOD

Publication

EP 0082139 B1 19870204 (EN)

Application

EP 81901990 A 19810626

Priority

US 8100876 W 19810626

Abstract (en)

[origin: WO8300210A1] A water heating column furnace (10) for producing non-corrosive, drinking-water-quality, heated water comprising a shell (12) having an upper, heat exchange and stripping compartment (14) and an in-line lower compartment (16) having heating means, the compartments being separated by a grating (22). A plurality of heat absorbing, transfer bodies (24) are positioned within the upper compartment on the grating. A greater amount and depth of heat absorbing bodies are provided than would be needed merely for heating in order to also strip the water of substantially all its free oxygen to eliminate the corrosive effects of CO2 presence. Cold water is sprayed (36) over the heat transfer bodies with the water running into the lower compartment as it is heated and oxygen-stripped. The heating means (52, 54; 164, 154) operates at a relatively low temperature free of intense hot spots to avoid NOx formations and its corrosive effects, and can be a direct flame source (54; Figs. 1 & 5) or an indirect reclaimed sourc (154; Fig. 7). In the direct, flame embodiments the furnace has water flow directing means (56; 86) positioned within the furnace shell to direct the downward flow of water to predetermined areas in the lower compartment in order to prevent hot spots from forming on the shell. An exhaust stack (28) is provided above the upper compartment for removing the exhaust gas from the furnace, with the exhaust stack preferrably being formed in a generally U-shaped configuration (34) to prevent back flow of air into the furnace whenever the furnace blowers (52; 162) are off.

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IPC 8 full level

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