

Title (en)
ACOUSTICAL BURNER CONTROL SYSTEM AND METHOD

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Application
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Priority
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Abstract (en)
[origin: EP0428373A2] An acoustically operated burner control system [1] for optimally controlling a flow of air and fuel into a flame producing combustion burner [3] throughout a range of firing rates is disclosed. The system includes separate valve assemblies for modulating the flow of air and fuel into a burner, [3] a microphone [103] for generating an electrical signal indicative of the intensity of all sounds generated by the combustion flame having a frequency in excess of about 10 kHz, and a controller [43] including a programmable microprocessor electrically connected to both the air and fuel valve assemblies [45,58] and the microphone [103]. The system further includes a wave guide [105] for remotely acoustically coupling the microphone [103] to the combustion flame [15] in order to isolate the microphone from both heat and corrosive combustion products. Prior to the operation of the system, empirically-derived sound intensities associated with optimum stoichiometric combustion and minimum pollution are entered into the memory of the microprocessor. During operation, the microprocessor equates the sound intensity sensed by the microphone with the optimum sound intensity in its memory by regulating the position of the air and fuel valve assemblies [45,58].

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Citation (search report)
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