

REGENERATIVE AIR PREHEATER DESIGN TO REDUCE COLD END FOULING

ABSTRACT

[0060] An air preheater 100 is described having an air damper assembly 162 that partially restricts an air inlet 130 and a flue gas damper assembly 152 that partially restricts flue gas inlet 124 during periods of reduced boiler load. Restricting the flue gas inlet 124 reduces the effective surface area of the preheater causing more heat to pass to the cold end of the air preheater 100, reducing acid condensation and fouling. Restricting the gas inlet 124, increases gas velocity, thereby eroding accumulations in the air preheater 100, also reducing fouling. Restricting the air inlet 130 reduces the effective heat transfer surface area of the air preheater, which raises the gas temperature in the cold end of the air preheater and thereby reduces acid condensation and fouling.

Figure 1