

# Improved control

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Bogh Industries has successfully updated a six burner tube fired solution heat treat furnace with new burner train and controls. The control cabinet and electrical engineering was done by American Controls and Engineering.

The furnace was equipped with a pulse firing heating system where all six burners were firing at the same time. A single valve and proportionator serviced all six burners and they were off or at high fire operation during the pulses. Significant soot and back fires was continually experienced by the customer.



The large amount of soot is shown around the exhaust leg of the burner tube.

A complete new gas train with new tube fired burners on individual control was installed. New PLC control and operator interface was implemented. The furnace now has no back fires and no soot in the exhaust. The temperature control is done by the PLC and very tight control is achieved.

The furnace will drop burners according to load and temperature. Our specially developed control scheme guarantee fast heat up and overshoot to less than 2F from set point during recovery.

In addition to the new burner controls simpler car and hoist position was implemented. The PLC has direct control of all positioning without the use of limit switches.



The picture shows the new burners with individual shutoff valves and proportionators for flame control.

Note that flame safety with flame rod is now part of the system for enhanced safety.

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