

Retrofit of SVG 125s for Low NO_x Combustion



Customer

Carlton Forge, CA

Application

Forge Furnaces Operating at 2000°F

Problem

Standard SVGs generate 50–55 ppm NO_x. Eclipse TJ 100s produce approximately 45 ppm at the same furnace temperatures and were being considered as BACT in California.

Product

SVG 125

Lab testing led to a redesign of the gas/air mixing cup in the burner to reduce NO_x emissions to around 40 ppm. This is now considered BACT for this application.

Carlton purchased 30 SVG model 125s with complete retrofits for 5 furnaces.

The modification consisted of reducing the number of air holes at the back of the cup and eliminating the first two rows of holes on the cup cylinder. In addition, one inch was added to the cup length between the backplate and first row of air holes.

The resulting NO_x generation is shown below. The new design reduces NO_x emissions by approximately 30% from the standard SVG, and 15% less than the Eclipse TJ100 burner.

