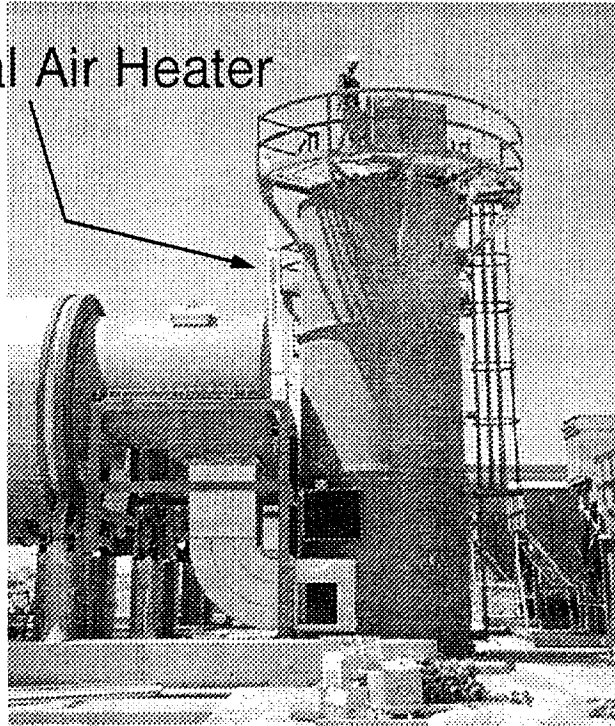

Application *Brief*

- SUBMITTED BY:** Jim Benedict, Heat Process & Control, Prairie Village, Kansas.
- APPLICATION:** Production of Distillers Dried Grain (DDG). DDG is a by-product from producing Ethanol. It is a grain residue from the fermentation process and amounts to 33% of the grain used in the process. DDG is very high in protein and when dried is sold as a cattle feed supplement.
- EQUIPMENT INSTALLED:** Direct Fired 16V-MI-G Vortometric installed in an air heating oven > 600 degrees F. for vertical down firing. NYB size 364 series 20, 20 HP combustion air blower for 8400 SCFM @ 6.5" S.P. Hauck PVS 2A40 4" adjustable port valve for input control. Controls - DC 8000, High Limit - DC 2000, Flame Safety - PCI.
- TYPE OF FUEL USED:** Natural Gas.
- REQUIREMENTS:** To fire up to 25,000,000 Btu/hr with 100% excess air. Must have high spin of gases in the same direction as the recirculated gases entering the combustion chamber. Relatively short and high intensity flame.
- CHALLENGES:** The recirculated gases to be heated are high in moisture and relatively low in oxygen. Therefore, it is important to complete combustion before the two gas streams mix. If this condition is not met, secondary combustion takes place creating large and destructive pulsations in the system.
- RESULTS:** The Vortometric burner has proven to be very successful. We now have thirteen in operation. Several more are being quoted.



Vertical Air Heater



Burner

Blower

Grain Dryer, 16V-MI Burner
Vertical Firing Down

