

Heating Gaseous Catalysts with a Model E4 Quad Elliptical Chamber

Application

A chemical process pilot testing facility heating gaseous catalysts in a vessel to develop and improve products and production techniques.

Problem

Temperature Limitations - Existing pipe heaters had upper temperature limitations which made testing to higher process temperatures and pressures impossible.

Difficult Vessel Removal - Insulation surrounding existing pipe heaters had to be removed and re-installed to enable the facility to remove the vessel for inspection, cleaning or replacement.

Solution

Heat - A Model E4 Quad Ellipse Chamber was used to heat the catalysts to temperatures up to 2700°F (1482°C).

Power Control - A Model 664F Phase Angle SCR Power Controller controlled the power to the Quad Ellipse Chamber.

System Integration - The Quad Ellipse Chamber and SCR Power Controller were connected to the facility's existing process control system.

Benefits

Reduced Temperature Limitations - The Model E4 Quad Ellipse Chamber enabled the facility to heat catalysts to temperatures up to 2700°F (1482°C).

Convenient Vessel Removal - The Quad Ellipse Chamber opened easily to allow access to the vessel.

Long Test Runs - The facility was able to operate long test runs by using the Quad Ellipse Chamber.

Preserved Existing Resources - By integrating the Quad Ellipse Chamber and SCR Power Controller into the existing process control system, the facility was able to preserve the investment in the existing equipment.