



# HR3 Burner Retrofit for Siemens Gas Turbines

Trends such as population growth, climate protection and resource scarcity are expected to continue to drive considerable amounts of capital spending in order to secure safe, economical and environmentally compatible energy supplies. As part of our ongoing commitment to meet the changing requirements of your operating assets, Siemens offers the latest technology to help you enhance your operating plant reliability and performance. Siemens gas turbines are renowned for their high availability and reliability as well as high power output and low emissions.

One of the innovative solutions offered by Siemens to help you improve the performance of your gas turbine and your competitiveness is the HR3 Burner Retrofit.

## Our product

The HR3 Burner Retrofit design enhances the mixing of fuel gas and combustion air during the gas premix mode. The design also reduces turbulences of the combustion airflow while increasing its velocity through the combustor. Together, these features contribute to more stable combustion and can help lower NO<sub>x</sub> emissions.

## Customer benefits

The HR3 Burner Retrofit is a highly cost-effective modernization that can help increase reliability, availability and performance of your gas turbine.



Detail of a model of HR3 diagonal swirler

Benefits can include:

- extended range of stable combustion fuel gas operation
- protection against flame flash back
- reduction of NO<sub>x</sub>-emissions
- minimized potential for fuel gas leakage due to corrosion<sup>\*)</sup>
- lower maintenance costs through non-corrosive gas distribution piping<sup>\*)</sup>
- potential for more power output.

The HR3 Burner Retrofit is state-of-the-art for new Siemens' gas turbines of the frame types SGT5-2000E (V94.2) for more than 15 years and SGT6-2000E (V84.2) since 2003.

Performance enhancement programs – gas turbine

Answers for energy.

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### Scope of supply

The scope of this upgrade includes new burner assemblies with the following features:

- HR3 burner design
- Improved F-Ring design\*)
- Improved impingement cooled tile holders\*)
- Tile holder exchange between row A1/A2 to row F\*)

We recommend the installation of this upgrade be performed at a major outage. Siemens offers a full range of field service capabilities to help you manage your maintenance and outage schedules.

The HR3 Burner Retrofit with the above mentioned scope of supply is applicable for the V64.3, SGT5-2000E (V94.2) and SGT6-2000E (V84.2) gas turbines and may be combined with other modernizations.

### References

Siemens has successfully implemented the HR3 Burner Retrofit in more than 25 units of the frame types V64.3, SGT5-2000E (V94.2) and SGT6-2000E (V84.2) worldwide, e.g. in the following countries:\*\*)

- Argentina
- Australia
- Belgium
- Egypt
- Finland
- Germany
- India
- Netherlands
- Thailand
- United Arab Emirates
- United Kingdom and
- United States

Within the Siemens' new unit business, more than 1,800,000 equivalent operating hours (EOH) have been accumulated on the SGT5-2000E (V94.2) and SGT6-2000E (V84.2) operating with HR3 Burners.\*\*)



New HR3 design – gas injection through vane

For more information please contact your local Siemens sales representative.

\*) applicable for SGT5-2000E (V94.2) and SGT6-2000E (V84.2)

\*\*\*) as of August 2010

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