



Advanced Compressor Mass Flow Increase Upgrade for Siemens Gas Turbines

Introduction

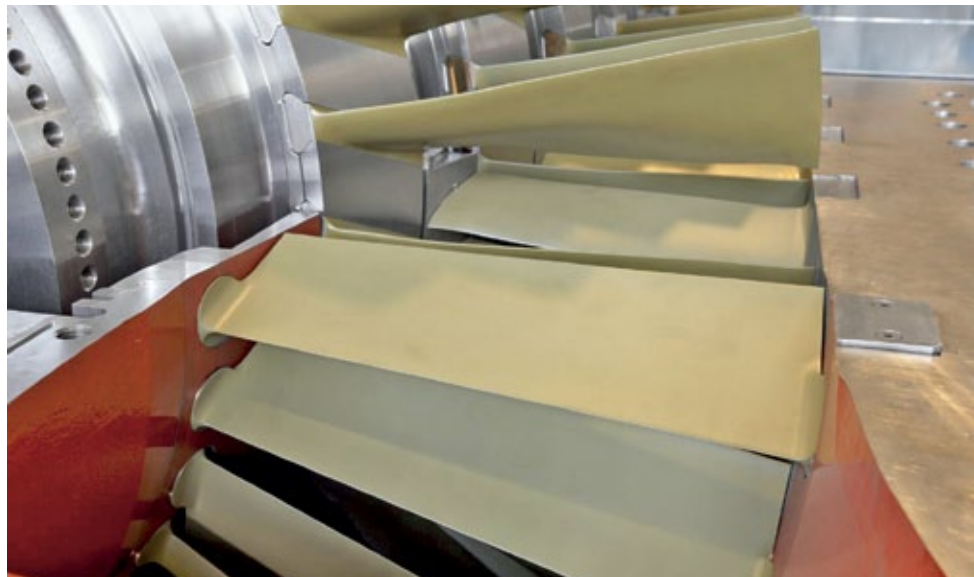
Innovation is one of Siemens' core values. Siemens Energy thus continuously increases the portfolio of upgrade products in order to provide you with opportunities to modernize your equipment. In an ever more demanding and growing worldwide energy market, upgrade products can help bring existing machines to optimal, state-of-the-art operability.

Renowned for their high availability and reliability rates, Siemens Gas Turbine upgrade products also have a reputation for generating high power output at low emissions. The Advanced Compressor Mass Flow Increase Upgrade, an extension of the already existing Compressor Mass Flow Increase Upgrade, can help improve the performance of your gas turbine and combined cycle power plant.

Our product

The Advanced Compressor Mass Flow Increase Upgrade (CMF++) for the SGT5-4000F fleet is inspired by the proven SGT5-8000H compressor hardware design and, in its earlier version, was well received in the market.

The upgrade consists of the aerodynamic re-design of the first six stages of the compressor blades and vanes and incorporates the latest Siemens design improvements resulting in a major simple and combined cycle performance increase.



Advanced compressor blades

Performance Enhancement – Gas Turbine

Answers for energy.

SIEMENS

Your benefits¹⁾

As a cost-effective means, the Advanced Compressor Mass Flow Increase Upgrade can help you improve the overall performance of your gas turbine and combined cycle power plant and thus helps you remain competitive in the market.

Your benefits may include:

- Increased gas turbine power output of up to 10 MW in simple cycle operation
- Improved power output of up to 14 MW in combined cycle (1x1) operation.

The Advanced Compressor Mass Flow Increase Upgrade is a state-of-the-art feature for all new SGT5-4000F (V94.3) machines manufactured since 2011.

Scope of supply

The Advanced Compressor Mass Flow Increase Upgrade is just one of the many innovative upgrade packages available from Siemens Energy. Each upgrade step undergoes different test methods to optimize reliable engine operation.

The scope of this upgrade includes:

- Aerodynamic re-design of the compressor stages one to six
- State-of-the-art controlled diffusion airfoil profiles
- Adapted flow path of the first compressor disc to the new scoop design
- Instrumentation and control modification.

We recommend the installation of this upgrade at a major outage. Siemens offers a full range of field service capabilities to help you manage your maintenance and outage schedule. The Advanced Compressor Mass Flow Increase Upgrade with the above mentioned scope of supply is applicable for the SGT5-4000F (V94.3A) frame and may be combined with other modernizations.

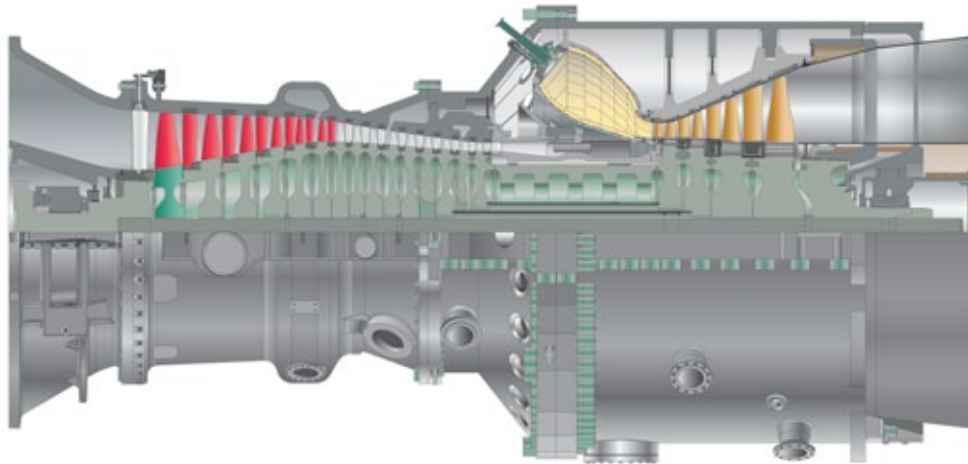
References

The Siemens' product validation and operational experience ensures the high reliability of the Advanced Compressor Mass Flow Upgrade. The previous version of a Compressor Mass Flow Increase Upgrade (CMF+) was successfully implemented in more than 130 units with more than 2,5 million accumulated equivalent operation hours (EOH).²⁾

1) Benefits based on a unit equipped with the Compressor Mass Flow Increase CMF+ and subject to specific technical plant evaluation, expected values with test tolerances @ ISO condition.

2) As of July 2012

For more information please contact your local Siemens sales representative.



Cross section of the SGT5-4000F (V94.3A) gas turbine

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