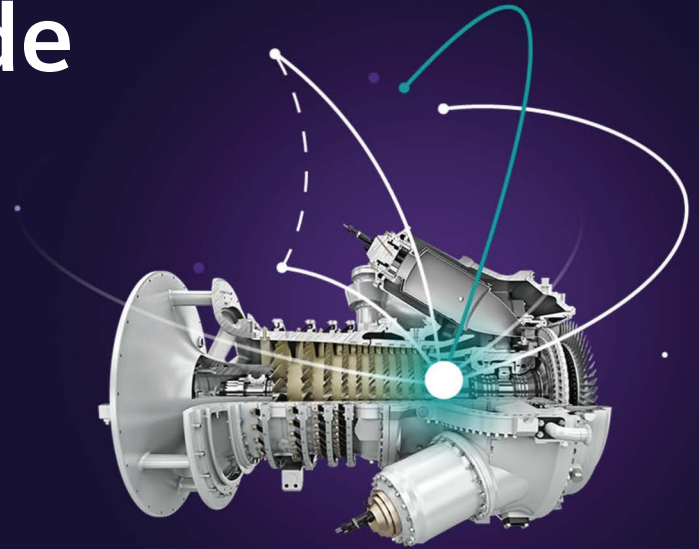


High Efficiency Aerofoil upgrade

SGT-300-1S



[siemens-energy.com](https://www.siemens-energy.com)

Background

Sustainability and reducing carbon footprint are key drivers for us all, and Siemens Energy is committed to supporting customers in their energy transition.

With new targets being set for CO₂ reduction through legislation and company policy, Siemens Energy is pleased to be able to offer an evolution of the current SGT-300 compressor for significant improvements in operating efficiency and reduced fuel burn.

Our High Efficiency Aerofoil (HEA) upgrade offers a highly cost-effective way to enhance SGT-300-1S performance, delivering improved operating cycle efficiency at part load. For customers operating their engines at full load, the upgrade provides a power increase within existing engines, helping maximize asset performance and operational value.

Fleet applicability

- Customers who own and operate SGT-300-1S (7.9 MW) units and are seeking a retrofit HEA compressor upgrade to improve efficiency and operational performance without major package changes.
- Operators looking to reduce fuel consumption and associated CO₂ emissions, particularly during part load operation, while maintaining operational flexibility and supporting compliance with current and future tightening emissions regulations.
- Customers with flexible / part load operating profiles, where the HEA upgrade delivers its greatest value through improved part load efficiency (up to 5% to 8% fuel/CO₂ reduction) and meaningful annual CO₂ reductions, contributing to a lower total cost of operation.

Product overview

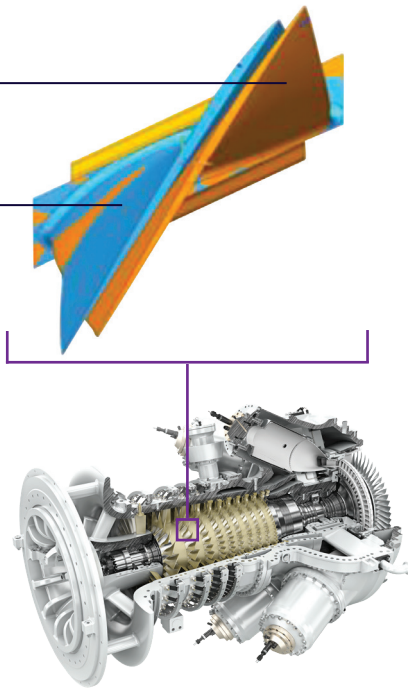
The High Efficiency Aerofoil (HEA) compressor is a low cost, retrofittable compressor upgrade* that can be selected as part of a factory 'B' or 'C' type service overhaul. If selected, the HEA upgrade can provide existing SGT-300 operators with significant performance improvements to both output electrical power available and reduced fuel burn through improved engine efficiency.

To ensure retrofittability, the stage and blade counts, as well as their axial positions, are maintained within the existing compressor rotor and casings. This design choice allows for the replacement of the rotor and stator blade set without any further modifications to the core engine, as the new aerofoils are compatible with the existing blade and stator mounting features.

*Subject to control system and Variable Guide Vane Actuation compatibility.

New compressor
blade profile

Old compressor
blade profile



Benefits



Reduced fuel burns during flexible and part-load operation



Higher thermal efficiency across the operating range



~180 kW power uplift at base load (site-dependent)



Lower carbon-cost exposure, where CO₂ pricing applies and reduced total operating cost over engine lifetime



Lower CO₂ emissions, driven by improved efficiency—strongest at part load

Support services and implementation

- Available as an upgrade during factory overhaul 'B' or 'C' type service.
- For your installation, you will be advised of suitability for the upgrade along with the full scope of mandatory and optional upgrades applicable to your site to facilitate operation with the upgraded compressor in your engine to maximize efficiency savings.
- Prior to the upgrade, a Siemens Energy representative will conduct an installation check to assess suitability.

Further information regarding Modernizations & Upgrades options from Siemens Energy can be found using the following Myadvisor link:



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