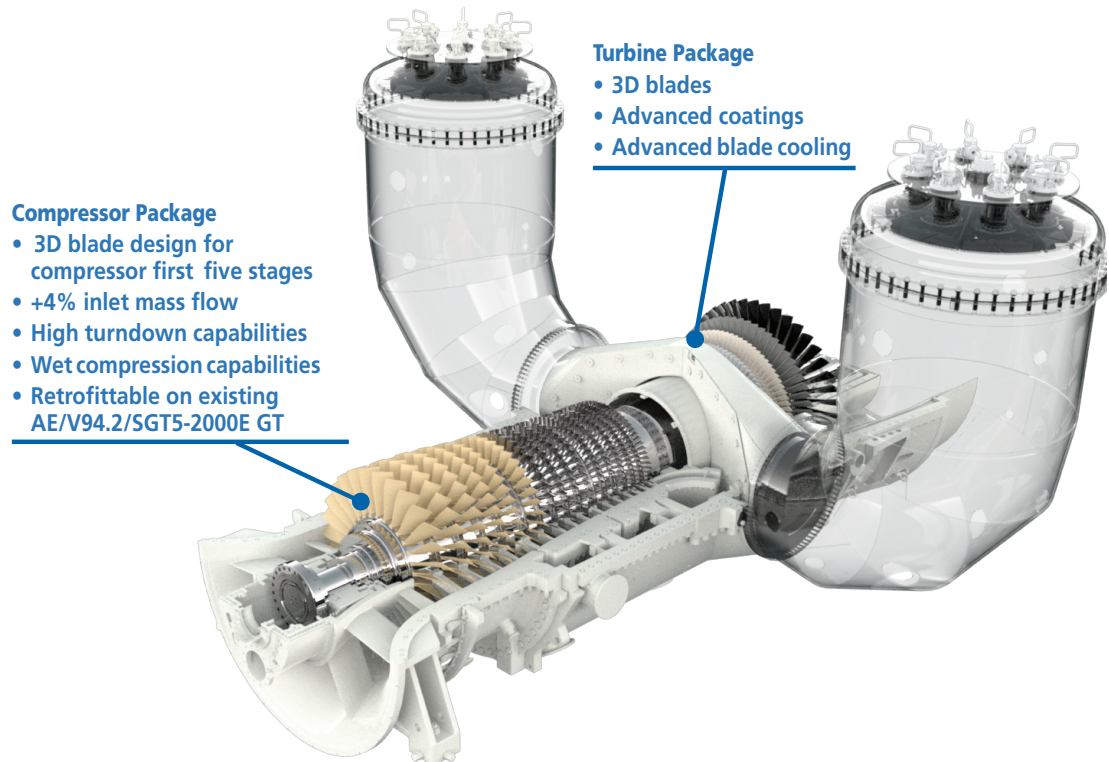




The MXL2 fully 3D designed blade and vanes upgrade allows to obtain the maximum performance improvement (M-mode) and/or to extend the maintenance interval (XL-mode). It is applicable to the GT models AE/V94.2/SGT5-2000E. This upgrade consists of two packages for the complete four stages of the turbine section and for the first five stages of the compressor plus the IGV.

These packages lead to a substantial improvement in overall power production, efficiency and maintenance intervals, and both packages have been developed to be modular and retrofittable, applicable independent of each other.



How You Benefit

The AE94.2 MXL2 Upgrade is applicable to customers with the E-class SGT5/94.2 gas turbine series starting from the series 3. The implementation of these two packages can be optimized during a Major Overhaul and during an extended HGPI, without de-stacking of the turbine rotor. The installation of the two MXL packages together ensures the maximum combined performance benefits.

CUSTOMER BENEFITS*

- Increase of net power production up to 185 MW
- Up to 36.5 % simple cycle efficiency
- Extension of the maintenance intervals at 50 KWE OH
- Suitable for upgrade in both single and combined cycle. It is possible to keep the gas turbine outflow conditions unchanged if required by external constraints.
- No change required for rotor disk or secondary air system

* Reference values in new, clean and ISO conditions, specific data to be evaluated case by case

TECHNICAL FEATURES

- Aero-Mechanical Optimized Design
- Enhanced cooling system (turbine package)
- Material: intensive use of advanced nickel-based superalloy (turbine package)
- Coating; enhanced bond coating and extensive use of TBC (turbine package)
- Reduction of the secondary air mass flow rate (turbine package)
- Improvement of the mass flow rate up to 4% (compressor package)
- High turndown capacity (compressor package)



Technical Specifications

Turbine Package

- Complete new set of Blades and Vanes
- New set of stator sealing rings
- Controls system modifications
- Assessment of the gas turbine axial strength with possible adaptation of the journal and thrust bearing



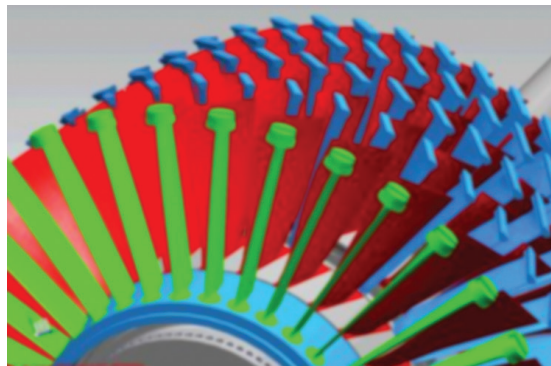
Turbine Package blades TB1-TB4; on the right side, blades mounted on rotor

Compressor Package

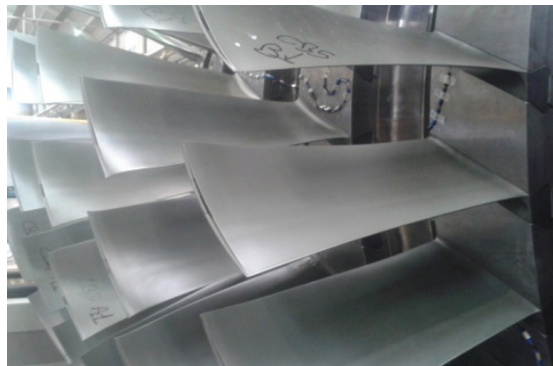
- Replacement of the first five stages of the compressor and IGV
- No changes required on compressor casing, compressor bearing and gas turbine air intake
- No replacement of compressor discs required



Turbine Package stator vanes; TV1 (left), TV2 (right)



Compressor Package CAD model of the first five stages of compressor



Compressor Package Rotor stages

GT performance gain*

	Turbine Package	Turbine + Compressor Packages
Power Output Improvement	Up to 19.8 MW	Up to 27 MW
Efficiency Improvement	Up to 1.74 %	Up to 1.91 %
Maintenance Interval Extension WEOH	Up to 8000	Up to 8000

* Reference values in ISO conditions, specific data to be evaluated case by case

For more information and to reach our sales Team, please go to www.ansaldoenergia.com

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