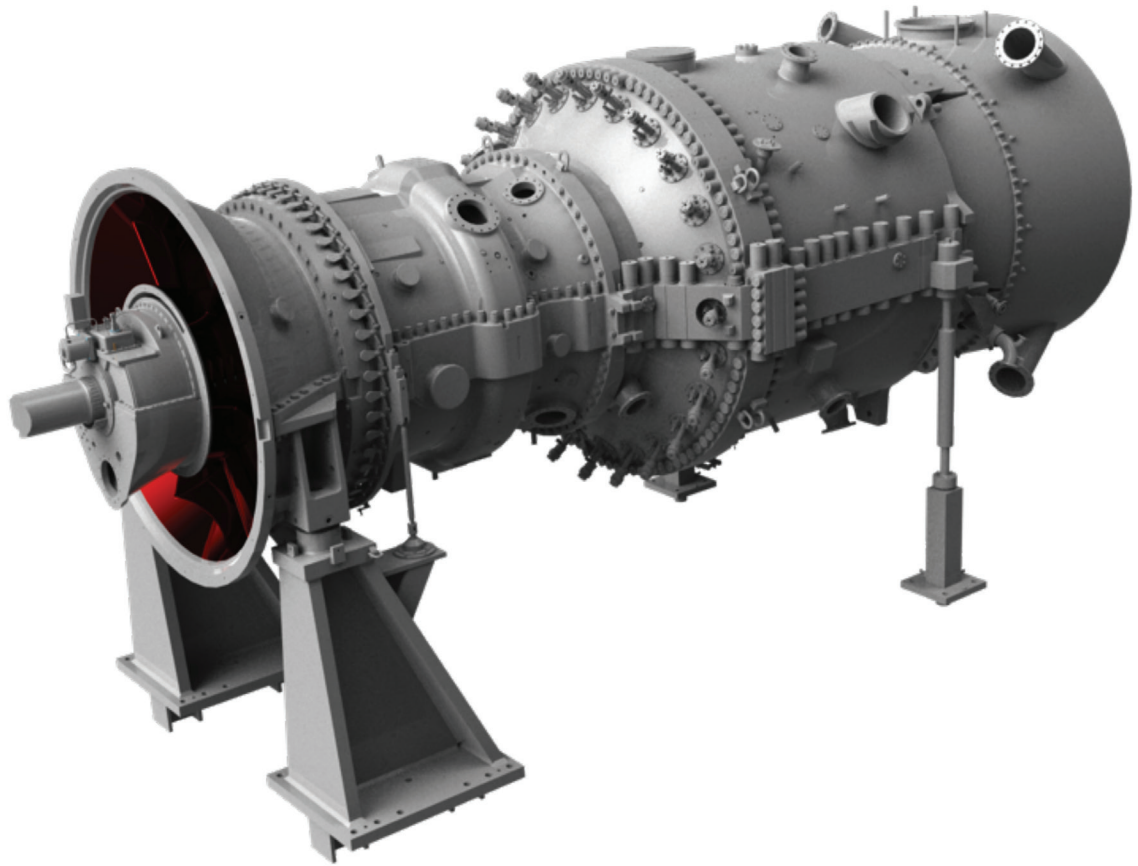




The MXL upgrade allows to obtain the maximum performance improvement (M-mode) and/or to extend the maintenance interval (XL-mode). This upgrade is applicable to the GT models AE/V94.3A/SGT-4000F by applying new Hot Gas Part concepts and combustion technologies on well proven equipment.



How You Benefit

This package is applicable to all AE/V94.3A/SGT-4000F AEN and V series Gas Turbine Models controlled by any Third Party Control System and, as a retrofit package, is easily applicable during a standard Major Overhaul.

CUSTOMER BENEFITS*

- Increase of net power production up to 298 MW
- Up to 39.8% simple cycle efficiency
- Up to 41 KWE OH maintenance interval increase
- Lower emissions (even at partial load)
- Enhanced Gas Turbine Flexibility
- Turndown up to 50% of base load

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

TECHNICAL FEATURES

- **More Power**
3D Compressor Airfoils
- **More Efficiency**
Turbine Blades upgraded
- **More Reliability**
Central Unbladed Bisks
- **More Flexibility**
Hydraulic IGV system
- **Lower Emissions**
New Combustion System

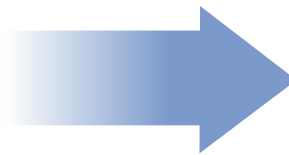
Technical Specifications

COMPRESSOR AND TURBINE

- New 3D Compressor IGV Airfoils design
- New 3D Compressor 1st and 2nd Blade and Vane Airfoils design
- Turbine Blade and Vanes Cooling with improved Thermal Barrier Coating
- Turbine 4th Stage Blade (re-staggering)
- Improved Cooling Extraction System with Variable set Point (SAS Up)
- Brush seals on 2nd and 3rd stage seal rings

4,6% mass flow increase

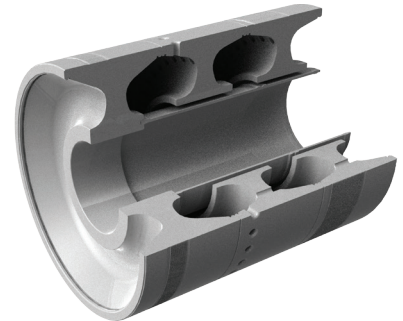
Turbine inlet Temperature Increase to 1260°C



MORE POWER
MORE EFFICIENCY



Turbine blade and vane improved cooling



CUD: Central Unbladed Disks

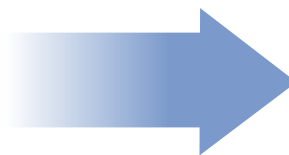
GAS TURBINE ROTOR

Central Hollow Shaft replaced by three Central Unbladed Disks (CUD's)

Higher Stiffness

Same Span

Better Durability



MORE RELIABILITY

GAS TURBINE AUXILIARIES

Introduction of IGV hydraulic actuator: The hydraulic actuator allows a better response, an improved precision and a better reliability:

Better precision positioning

Extended Operational Range



MORE FLEXIBILITY



GAS TURBINE CLEARANCES

Introduction of the hydraulic RDS (Rotor Displacement System). New Bearing Same Dimensions

Reduced Turbine blade-tip clearances.

MORE FLEXIBILITY



RDS (Rotor Displacement System)

Up to 1.8 MW without additional fuel consumption

GAS TURBINE COMBUSTION SYSTEM

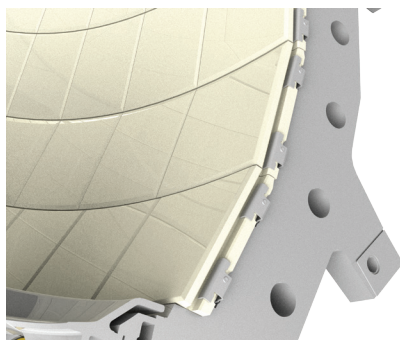
- Upgraded material for Combustion Chamber Tiles
- Improved Cooling Extraction System with Variable set Point (SAS Up)
- Optimization of tiles and tile-holders cooling and Thermal Barrier Coating on burner Inserts
- Possibility to combine with improved burners (see AE94.3A Low VeLoNOx™ burners brochure for more the details)

Dry Low Nox Burner with improved design

Reduced NOx and CO

Improved Tiles durability

LOWER EMISSIONS
MORE RELIABILITY



Combustion Chamber New Tile



VeLoNOx™ burner (3D view)



GT performance gain *

Power Output Improvement	Up to 26 MW
Efficiency Improvement	Up to 0.5%
Maintenance Interval Extension WEOH	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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