

# Combustion components equivalent to GE MS6001FA+e

Sulzer provides design and manufacturing of new gas turbine components in both hot and cold sections. We focus on lifetime extension and performance improvement of your equipment. We have unique insight into designing a high quality product that is compatible and interchangeable with the original equipment. All DLN 2.6 combustion components include installation hardware suitable for installation in PG6111FA gas turbines.



# Fuel nozzles

The DLN 2.6 fuel nozzle configuration consists of five outer fuel nozzles and one center fuel nozzle. The nozzles are made from austenitic stainless steel. The fuel nozzle features a swirler that is manufactured through an investment casting process. The swirler is fully faired and the tip of the fuel nozzles is fused which makes the fuel nozzles flashback resistant. The fuel nozzles can be supplied in a gas only and dual fuel configuration.

## Fuel nozzles

| Firing temperature | Up to 1'327°C (2'420°F)          |
|--------------------|----------------------------------|
| Design             | Faired swirler, fused tip design |
| Material           | Austenitic stainless steel       |
| Sealing            | E-sealing, C-sealing             |
| Auxiliaries        | Locking hardware included        |
| Interchangeability | PG6111FA (6FA+e/6FA.03)          |

### Liner and cap

The liner is manufactured from Nimonic 263<sup>™</sup> sheet. The conically shaped liner features a turbulated outer wall and advanced outlet cooling to enhance heat transfer in the high temperature areas. Internally, Thermal Barrier Coating (TBC) system is applied to reduce metal temperatures. Chromium carbide (CrC) coatings are applied on the interfaces with the liner cap and the transition piece.

The liner cap is manufactured from stainless steel. The downstream side of the cap features an effusion cooled plate that is made from HastelloyX<sup>™</sup>. Chromium carbide coatings are applied on the interface with liner (Hula spring seals).

# Transition pieces

The transition piece is made from Nimonic 263<sup>™</sup> sheet body surrounded by an AISI 304 impingement cooling sheet. Both shaped sheets are manufactured by cold pressing. The exit of the transition piece is film cooled. Sulzer applies a MCrAIY and Thermal Barrier Coating to the inner surface of the transition piece. This coating system has superior oxidation and corrosion resistance for base load as well as peak load applications. The application of TBC on the internal surface produces a life extension resulting in improved durability. Chromium Carbide coatings are applied on the interfaces with liner and flow sleeve to reduce wear and thereby extend part life.



| Liner cap (1)      |  |
|--------------------|--|
| Firing temperature | Up to 1'327°C (2'420°F)  |
| Design             | Conical shaped liner design  |
| Cooling            | Liner: Turbulated outer wall;<br>advanced outlet cooling,<br>Cap: effusion cooled  |
| Material           | Nimonic 263™ (liner), HastelloyX™  |
| Coating            | Liner: Internal: TBC system;<br>Hardface coating at interfaces with<br>transition piece and liner cap,<br>Cap: Hardface coating spring seals |
| Sealing            | Spring sealing   |
| Auxiliaries        | Locking hardware included  |



| Transition pieces (2) |  |
|-----------------------|--|
| Firing temperature    | Up to 1'327°C (2'420°F)  |
| Design                | Impingement cooled TP body design  |
| Cooling               | Impingement cooled body;<br>film cooled outlet   |
| Material              | Nimonic 263™ (TP body);<br>AISI-304 (impingement sleeve)                               |
| Coating               | Internal: MCrAIY + TBC<br>Hardface coating at interfaces with<br>flow sleeve and liner |
| Sealing               | Floating seals   |
| Auxiliaries           | Locking hardware included  |
|                       |  |



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