

Redesigned compressor vane segments R14 / R15 / R16 suitable for GE F class gas turbines

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.

Sulzer developed a patented redesign for the compressor vanes R14 / R15 / R16 suitable for installation in GE F class gas turbines. The redesign eliminates premature failure of the compressor vanes and wear out of the interface rail of the casing, which finds its root cause in compressor vane rocking. Where the original components are single vanes with straight vane roots that have only three contact points, the redesigned vane segments contain roots that have a 100% fit in the rail of the casing.



Modified hook fit

To assure a 100% contact surface of the hook of the vane root into the interface rail of the casing, the hook is modified. A radius identical to that of the rail is machined in the hook. In addition, the thickness of the hook is adapted to the width of the rail.

Cranked vane root

The roots of each individual vane are cranked on both the leading edge and trailing edge side to ensure a tight 360° fit in the assembly. As a result shimming is not required anymore.

Damper pins

The single vanes are mounted into 3-vane and 4-vane segments that can be optimally distributed in the ring. The vanes are connected into segments by two pre-shaped tie rods through the root section. In this manner damping of the natural frequency in the vanes is increased.

Squeeler tip

The tip of the vanes has been redesigned and a squeeler tip has been applied. This will reduce the risk of catastrophic fatigue failure in case of rubbing.



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