



High Speed Temperature & Pressure Seal Rig

Description

Design and development of a 25,000 RPM seal endurance test rig for an F1 seal manufacturer. The rig consisted of four separate test heads, two high speed and two low speed, each driven by a high speed motor and toothed belt.

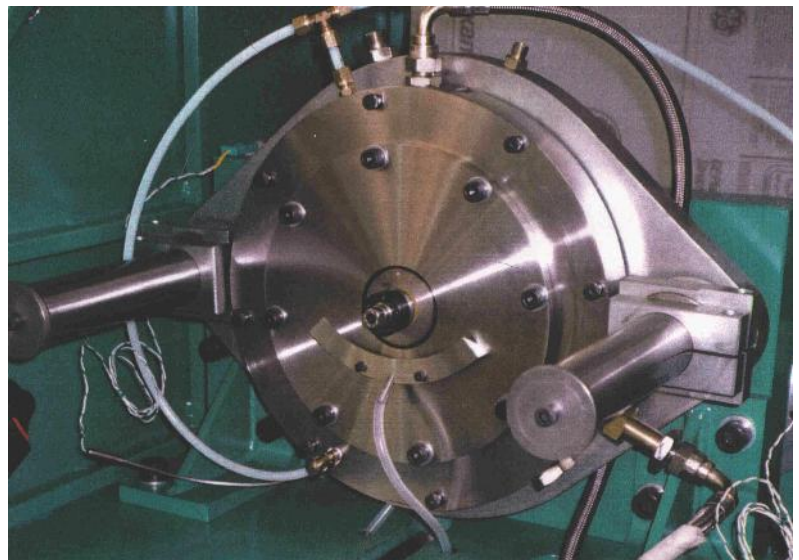
One or two 180 mm diameter seals can be tested in each head (for load balance), up to a temperature of 170 deg C and pressure of 160 bar, by a unique oil recirculation system. All parameters for each head could be independently set and controlled via the PC.



Seal Test Rig

Specification Summary

- 25,000 RPM seal endurance test rig
- 180 mm seal dia
- 4 test heads, 2 low and 2 high speed
- High speed motor and tooth belt drive
- High speed precision angular contact bearings
- Sub-critical, cantilevered rotor design
- 170 deg C max test temperature
- PC control of each head
- 160 bar max test pressure



High Speed Head

Disciplines Used

- Conceptual & mechanical design, stress FEA, rotordynamics analysis, heat transfer analysis, data acquisition and control, manufacture, assembly, test & commissioning.