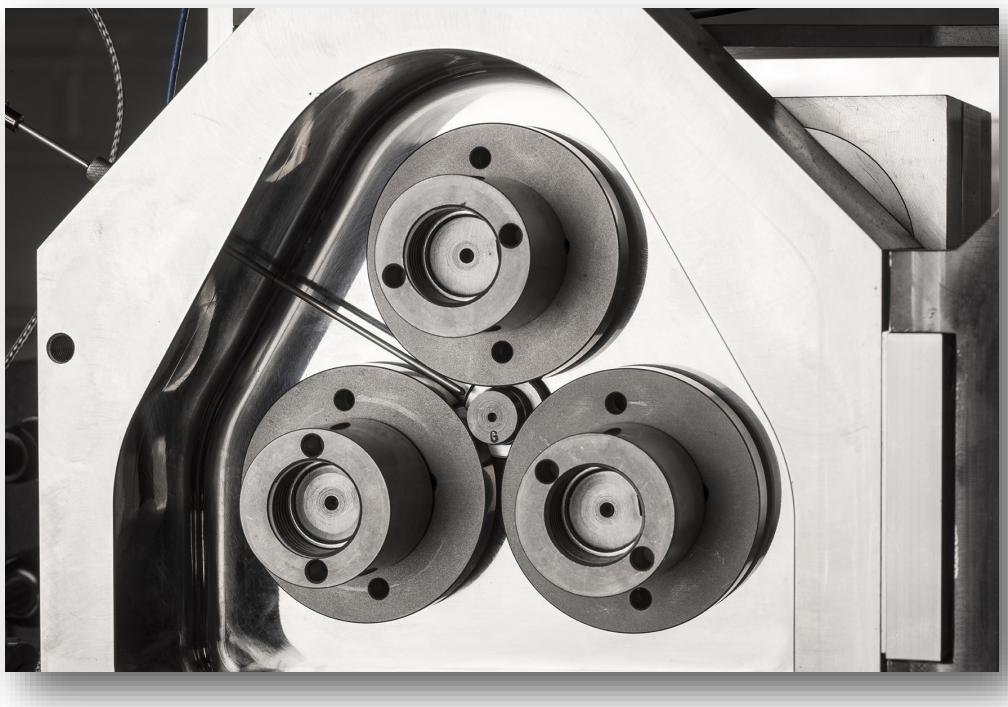
PCS Instruments

LEADERS IN TRIBOLOGY TEST EQUIPMENT

Micro–Pitting Rig (MPR)

Pitting is a material failure mode caused by repeated surface or subsurface stress cycles that are beyond the endurance limit of the material. It usually occurs when heavily loaded, lubricated surfaces slide/roll together, this can be reproduced using an MPR.



Investigations:

- Rolling contact fatigue
- Cylindrical roller investigation
- Coating effect analysis

Applications

- White Etching Cracks
- Heavy Automotive Vehicles
- Turbine Engines

Test Set-Up

Three ‘counterface’ rings of equal diameter are positioned apart with a smaller diameter roller located in the middle and in contact with all the rings. This arrangement allows the test roller to be subjected to a large number of rolling contact cycles in a short period of time and hence significantly reduces testing time.

Specifications

- Load: 0 to 2000 N
- Contact pressure: 0 to 3.2 GPa
- Speed: 0 to 4 m/s
- Slide/roll ratio: 0 to 200%
- Temperature: ambient to 150°C
- Fluid volume: 150 ml

Micro-Pitting

Pitted MPR Roller

Macro– Pitting