Data Sheet

Bearing Designer - ***Making real life easier***

V2016-02-01

Object Oriented Bearing Design

BearingDesigner is a complete stand alone object oriented bearing design environment or it can be integrated directly within the **clients software**.

BearingDesigner is used for designing sliding bearings supported by a hydrodynamic fluid film. It can also include the elasticity of the bearing and shaft. The bearing types supported are journal and thrust bearings applicable to a wide range of rotating machinery designs. For example gearboxes, engines, pumps and power generation machines.

BearingDesigner is object oriented to allow the rapid design, analysis and results processing that is required for today's demanding product development timescales. Thus allowing rapid what if scenarios and interactive optimisations.

Data input

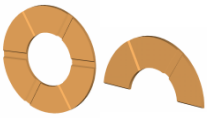
Geometric, material and lubricant data is input by dialogue boxes with default values where they are necessary and helpful to the user. Data need be input once only, as this can then be copied to other bearing objects within the system.

BearingDesigner's flexible approach enables it to model any type of bearing geometry. Bearing types widely recognised are plain, grooved, full floating bearings and engine bearing types such as full shell, split shell or split halves and even herring bone patterns.

Full Floating Bearing

Full Shell Bearing

Half Shell Bearing



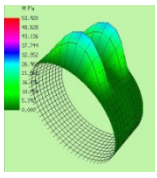
Thrust Bearings

Data output

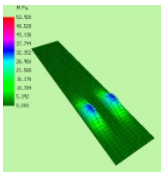
Bearing performance outputs include 3D animations, 2D performance curves and MS PowerPoint reporting format. Other data output formats can also be considered.

3D Results automatic animations

- 3D film pressure maps
- 3D ISO film pressure maps



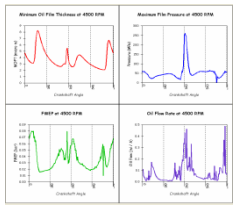
3D Pressure Map



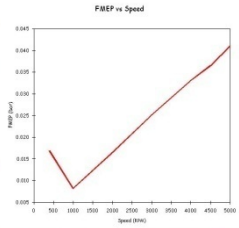
3D ISO Pressure Map

2D Results output curves

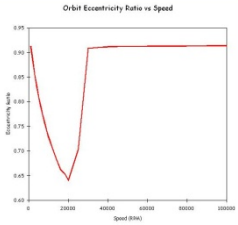
- Minimum film thickness
- Max pressure (over cycle)
- Friction over cycle
- Flow over cycle
- Friction against speed
- Orbit eccentricity against speed (stability curve)
- Bearing orbit (whirl orbit)
- Comparisons with other bearing designs



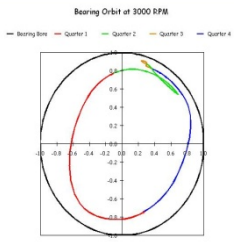
Min Film Thickness, Friction, Max Pressure & Flow rate



Bearing Friction v Speed



Orbit Eccentricity v Speed (stability curve)



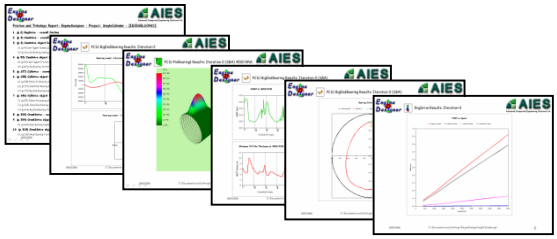
Bearing Orbit

General output data

- Forces & moments from loading & misalignment
- Stiffness & damping coefficients
- Waterfall diagram of orbit amplitude v speed.

Bearing design report

- MS PowerPoint format



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