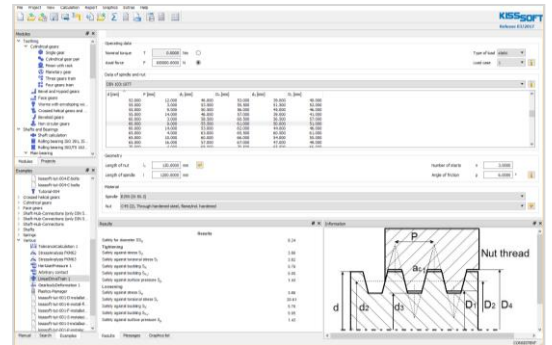


Spindle drives

Calculations

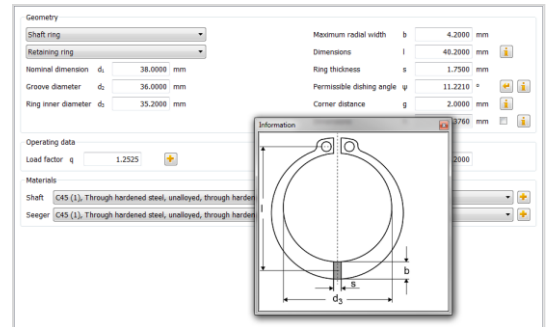
- Safety factor against buckling, contact pressure and torsion
- Geometry along DIN 103 and own definition
- For static, alternating and pulsating loads



Shear pins, circlips

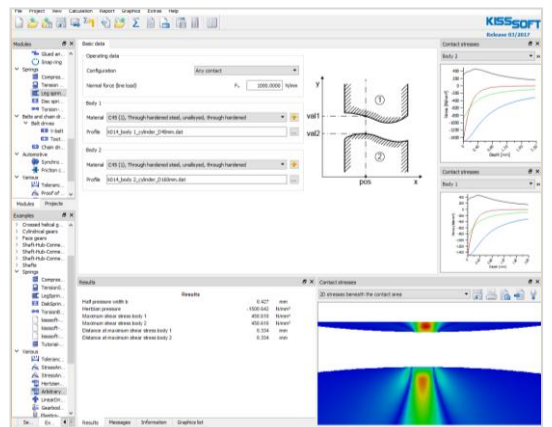
Calculation along Niemann / Seeger

- Bolt under shearing
- Cross pin under torque
- Longitudinal pin under torque
- Pin under bending
- Shear pin system
- Hub and shaft circlip



Calculations

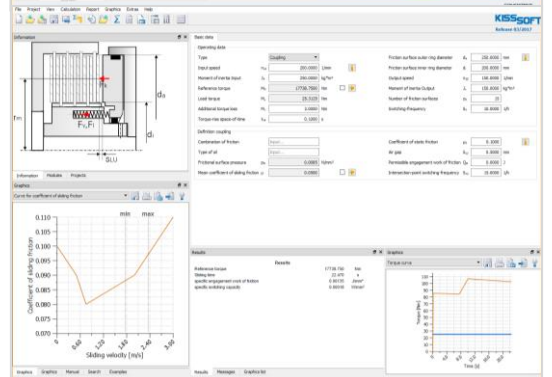
- Static or fatigue loads
- For full or notched type pins
- Material database
- Sizing function for pin diameter



General purpose modules

Hertzian contact

- Contact between balls, cylinders, ellipsoid and plane, arbitrary body
- Calculation of contact ellipse dimension
- Calculation of contact and sub-surface stress



Local stress analysis

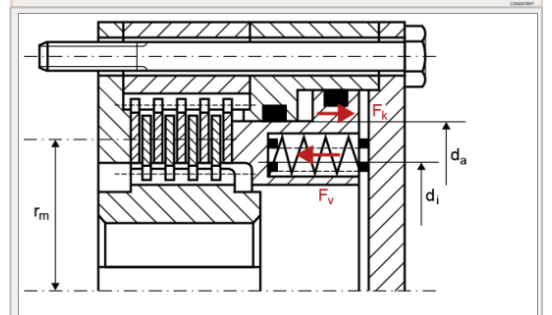
- Strength verification along FKM guideline
- For steel and aluminum
- For 1, 2 and 3-dimensional stress state

Tolerance analysis

- Min / Max values, statistical calculation
- Standardized or user defined tolerances

Belt drives, chain drives, clutches

- Chain sprocket geometry
- Belt and chain length
- Belt and chain strength
- Wet clutches along VDI 2241-1



Gear pumps

General

- For involute and non-involute tooth shape
- For external or internal gear pumps
- Calculation of tooth form, tooth load and volume flow
- Nominal flow calculation or considering elastic deformation of teeth
- Flow calculation can be combined with sizing functions

Expert options

- Changes in important parameters of pump during contact are calculated
- Includes enclosed volume, the volume with critical in-flow, narrowest point between flanks of first tooth pair not engaging marking the boundary of critical in-flow area, in flow velocity, oil flow, Fourier analysis for evaluation of noise potential, and total volume under entry chamber pressure

