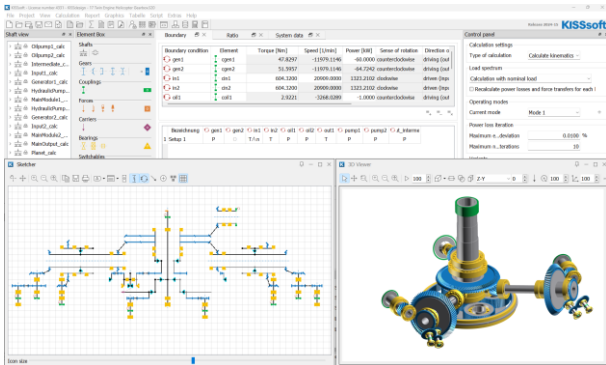


KISSdesign Release 2024 – Selected Features

User friendly

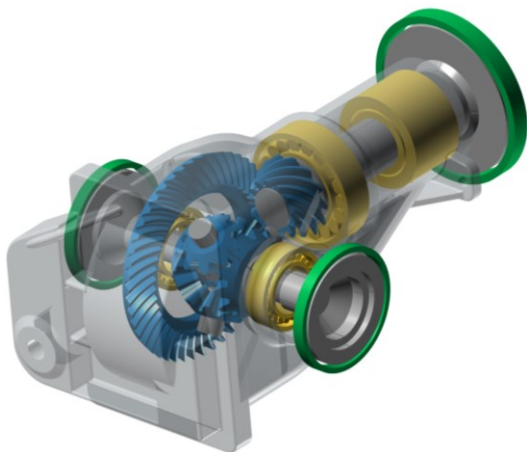
- KISSsoft look and feel
- Multi windows operations



In KISSdesign, windows and tabs may be arranged over several screens to accelerate the work flow and provide visibility of the system topology while optimizing individual components.

3D view

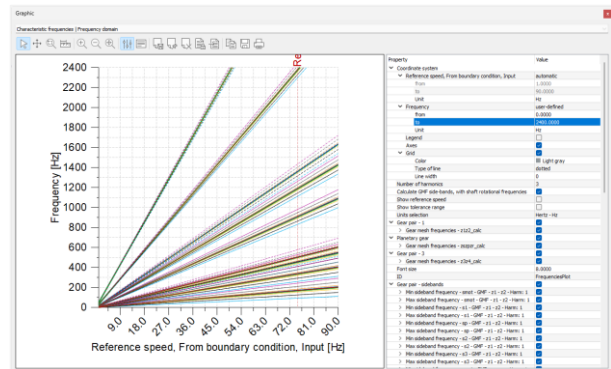
- Automatically created from part properties
- Allows for import of CAD data for collision check



Whatever topology is defined in the sketcher or tree structure of the model and whatever gear and shaft details are designed, the 3D viewer allows for a fast check of the arrangement and use of design space.

Exciting frequencies

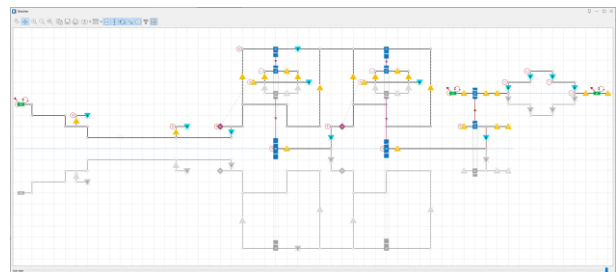
- Gear mesh, hunting and assembly frequencies
- Bearing fundamental and passing frequencies



Knowing gear and bearing frequencies helps for fault detection to prevent failure or plan maintenance actions. Frequencies are calculated over a speed range, considering harmonics and sidebands.

Topology definition

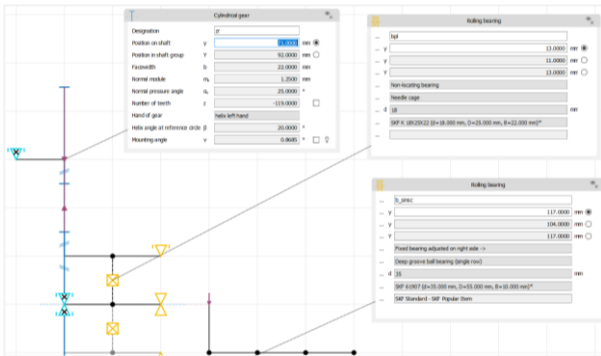
- Definition as a schematic in the sketcher
- Use mouse and keyboard to model



The sketcher allows for definition of the topology of a gearbox or transmission as if using pen and paper. Using mouse and keyboard, the system is drawn on a grid.

Annotations

- Visibility of key component properties
- Element labels showing element names



Annotations give a quick overview of key parts data like number of teeth and module or shaft total length or bearing designation. This simplifies communication in design reviews or when explaining the design.

Tabular data summaries

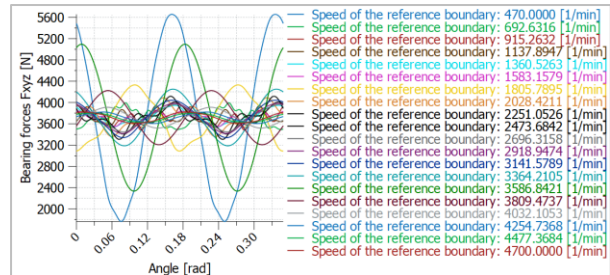
- List of component properties
- On subsystem or system level

		S1	S6	S5	slip	S7
Bearing description						
Calculation		iso4406_calc	iso4406_calc	iso4406_calc	phsmt_calc	x2_calc
Shaft		steel	steel	steel	steel	steel
Type	in:84°	Deep groove ball bearing (single row)	Deep groove ball bearing (single row)	Tapered roller bearing (single row)	Needle cage	Tapered roller bearing (single row)
Number	in:84°	SF 230	SF 612	SF 32010 X	SF K 2501324	FA6 KM511946-34011310
Geometry						
Type		Deep groove ball bearing (single row)	Deep groove ball bearing (single row)	Tapered roller bearing (single row)	Needle cage	Tapered roller bearing (single row)
Number		SF 230	SF 612	SF 32010 X	SF K 2501324	FA6 KM511946-34011310
Outer diameter	d	mm	50.0000	60.0000	50.0000	25.0000
External diameter	D	mm	50.0000	55.0000	80.0000	33.0000
Width	B	mm	20.0000	18.0000	20.0000	24.0000
Normal contact angle	α _n	°	0.0000	0.0000	15.9454	0.0000
Basic dynamic load rating	C	N	39100.0000	30700.0000	75100.0000	31900.0000
Basic static load rating	C ₀	N	34500.0000	23200.0000	88000.0000	47500.0000
Fatigue load limit	C _L	N	1400.0000	980.0000	9650.0000	5850.0000
Normal clearance			ISO 5753-1:2009 C0	ISO 5753-1:2009 C0	Over Input	Over Input
Normal diametral clearance	ψ _n	mm	0.0145	0.0380	0.0000	0.0000
Tolerance class						ISO 3030:2012 Needle cage
Shaft tolerance		mm				0
Hub tolerance		mm				0
Outer ring temperature	T ₁	°C	nan	nan	nan	70.0000

Key data per component type is summarized in tables. The tables inform also about the association of a part, e.g. for a bearing on which shaft it is located. In future, tables may be exported, and the content changed.

Forced response analysis

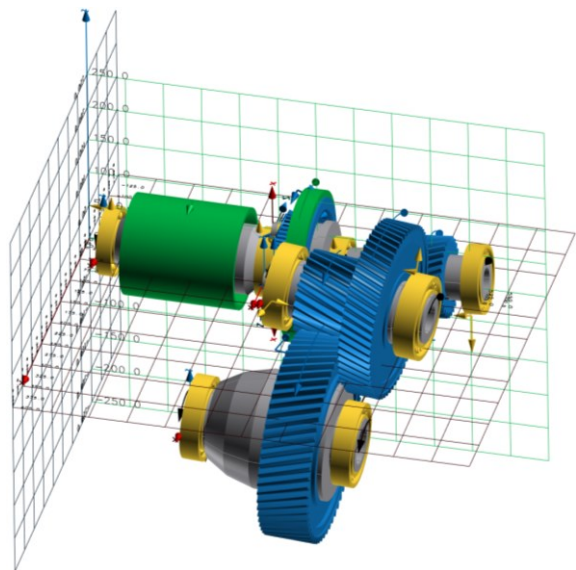
- Excitation from gear mesh and other
- Resulting bearing forces over time



The forced response analysis considers excitation from the transmission error in all gear meshes, shaft imbalance and torque ripple. Time dependent bearing forces allow for calculation of housing noise.

System deformation

- 3D display of deformed components
- For assessment of gear mesh misalignment



The system deformation is visualized. This helps to understand key contributions to gear misalignment, be it bearing, shaft, gear body or housing deflection.

A test version is available upon request from our website at: www.kisssoft.com/trial