

Basic training for KISSsys

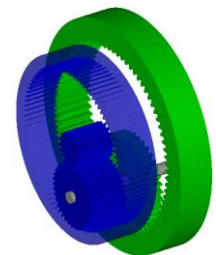
KISSsys is an add-on to the KISSsoft calculation software. It allows the user to build structures of custom made power transmissions in a single file. The program manages and calculates the interactions between the transmission elements. Thanks to elements to define kinematic constraints and interrelations between the components a complete structure can be calculated and analysed very fast, again and again.

Models in KISSsys have two parts; “Kinematics” - kinematically defined structure to recalculate speed, torque and power of every single element and “Strength calculations” - strength calculation of selected components using the familiar KISSsoft calculation modules. With the help of KISSsys your design process will increase in speed. There is no more manual data exchange between the single calculations or different programs. You will be able to produce a 3D model of the new design at the very early stage of the process, and there are many more advantages.

The focus of the basic training is to give users the knowledge on how to get started with KISSsys. Participants will learn about the scope of KISSsys and how to operate the program. KISSsys can be operated in user and administrator mode. During the training the participants will learn about the differences between these two operating modes. In the training course you will primarily do practical exercises with existing models and also practice to build your own new models.

In the first part of the training you will learn how to operate with existing models:

- Effective use of existing G-PK models
- Gearbox recalculations with different loads
- Automatic functionalities for gearbox sizing
- Gearbox cost analysis
- Calculating gearbox torque capacity

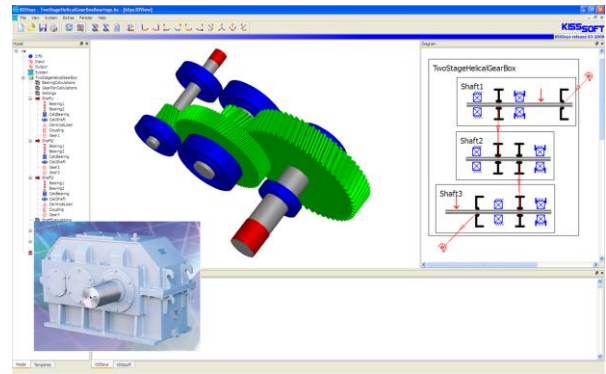


In the second part of the training you we will show you how to build up a system step by step with available elements and how to adapt it to your requirements:

- Creating a new model using tree structure and libraries
- Calculation of kinematics / power flow
- Connections to KISSsoft for strength analysis
- User interfaces and tables
- Programming language and user defined functions

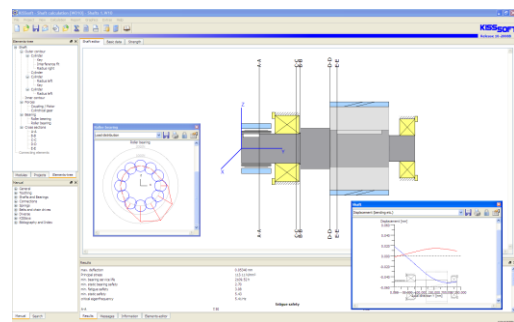
Day 1 – Introduction to KISSsys

- Introduction to KISSsys
 - What is KISSsys
 - How to operate with KISSsys
 - Terminology
 - User Interface and functionalities
- Using an existing model G-PK
 - Exercise (resizing and verification)
- Modelling
 - Exercise of two stage helical gearbox
 - How to build a new model step-by-step
- Introduction of some example models
 - Possibilities in KISSsys



Day 2 – Examples

- Modelling a planetary stage
 - Specialities in planetary gear models
- Model finalization
 - Positioning
 - 3D presentation of the layout
 - Settings for the KISSsoft calculations
 - “User Interface” – tables
- Introduction to the further features
 - Data handling (external calculation files)
 - Export of data/results
 - Using existing “special” templates (e.g. Load spectrum calculation)



Geometry manager

Normal module	m _n	6.0000	mm	
Pressure angle at normal section	α _n	20.0000	°	
Helix angle at reference circle	β	0.0000	°	
Center distance	a	303.0000	mm	
Number of teeth	z	25	76	
Facewidth	b	44.0000	44.0000	mm
Profile shift coefficient	x [*]	0.2483	-0.2483	
Tooth thickness factor	s [*]	1.7517	1.3899	
Dedendum coefficient	h [*] _a	1.2500	1.2500	
Root radius factor	p [*]	0.3800	0.3800	
Addendum coefficient	h [*] _a	1.0000	1.0000	
Tip diameter	d _a	164.9820	465.0180	mm
Root diameter	d _f	137.9820	438.0180	mm
Tip clearance factor	c [*]	0.2500	0.2500	

Results

Operating center distance	a	303.0000
Transverse contact ratio	c _r	1.6686
Overlap ratio	ε _s	0.0000
Total contact ratio	ε _t	1.6686
Root safety		2.9557
Flank safety		1.3226
Safety against scuffing		3.9185

Results

Contact ratio (Transverse/Overlap/Total)	1.6686/0.0000/1.6686		
Actual tip diameter d _a	164.982	465.018	mm
Root safety	2.9557	1.3775	
Flank safety	1.3226	1.3775	
Safety scuffing (integral)	3.9185		
Safety scuffing (Plan)	6.9924		