



KISSsoft

Calculation Tool for the Design,
Optimization and Analysis of
Machine Elements

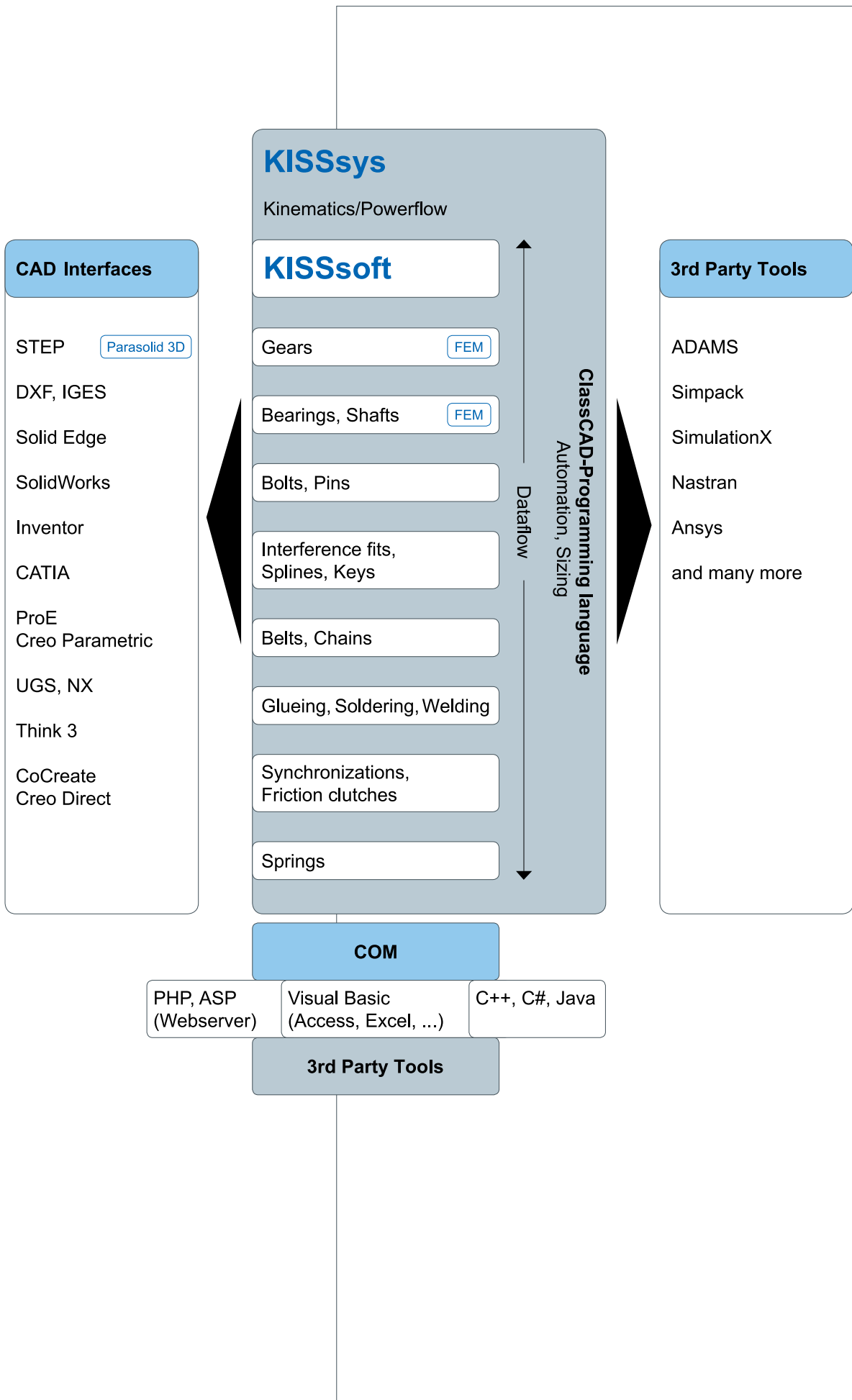
**William Mark McVea, KBE+, Inc.,
New York/United States**

„I have been a gear designer for 30 plus years; made an entire career and a good living at it too. In all that time I have been looking for a tool that does what I need, the way I need it done. I finally found it. KISSsoft does what I need, and allows me to work in a manner similar to the way I think about gear design and development.

I have worked closely with the technical support people over the years and have always been provided great service, timely responses and usable solutions to either application issues or even in many cases my own gear development problems. KISSsoft technical service is much more than just answers to questions; they are a trusted collaborator – one of the handiest tools in my toolbox.

KISSsoft is truly one of those unique finds – the harder I push it, the better it performs.“

„Let us share knowledge.“



KISSsys

Kinematics/Powerflow

KISSsoft

Gears

FEM

Bearings, Shafts

FEM

Bolts, Pins

Interference fits,
Splines, Keys

Belts, Chains

Glueing, Soldering, Welding

Synchronizations,
Friction clutches

Springs

Dataflow

ClassCAD-Programming language
Automation, Sizing

CAD Interfaces

- STEP Parasolid 3D
- DXF, IGES
- Solid Edge
- SolidWorks
- Inventor
- CATIA
- ProE
- Creo Parametric
- UGS, NX
- Think 3
- CoCreate
- Creo Direct

3rd Party Tools

- ADAMS
- Simpack
- SimulationX
- Nastran
- Ansys
- and many more

COM

- PHP, ASP (Webserver)
- Visual Basic (Access, Excel, ...)
- C++, C#, Java

3rd Party Tools

KISSsoft – Modular and Integrating

KISSsoft is a modular calculation system for the design, optimization and analysis of machine elements. The scope of the software ranges from a single machine element up to the automatic sizing of complete gearboxes.

- Calculations based on international calculation standards
- Integration in all standard 3D CAD systems
- Ability to design helical gears, bevel gears, worm gears and many more
- Contact analysis under load
- Shafts and shaft systems
- Integrated roller bearing calculation that takes internal geometry into account and classical method
- Shaft-hub connections with a comprehensive range of connection types
- Different calculations such as chain of tolerances, Hertzian pressure and many more

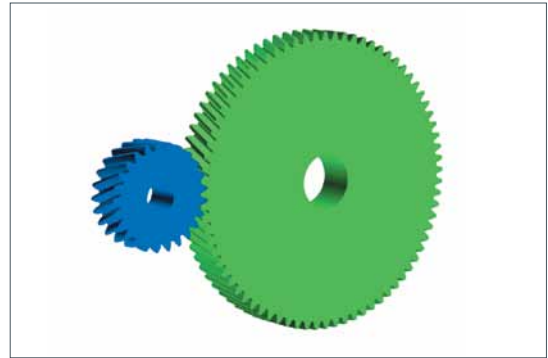
KISSsys is KISSsoft's system add-on that enables you to model complete gear units and drive trains. In addition, the „Gearbox variant generator“ automatically generates numerous gearbox variants, all with the same required reduction and performance, but with different numbers of stages and reduction distributions over their stages.

- Finished models for frequently used, standard applications and design of any other type of kinematics (such as complex epicyclic gears and differentials)
- Automatic connection to KISSsoft calculation modules (such as contact analysis that takes into account the shaft deflections of the pinion and the gear)
- A wide range of elements for shifting gears, template parts and thermal analysis
- You can also use the integrated programming language to perform your own calculations

Product Overview

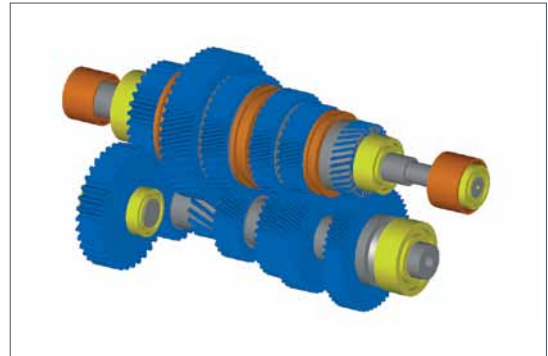
KISSsoft

It works on the basis of international calculation standards to provide extensive optimization options for the entire sizing process of machine elements. The software guarantees you can perform quick and accurate strength calculations. It also provides reports containing detailed information about safety factors and service life values. Interfaces to all the standard CAD programs complete the features of this product.



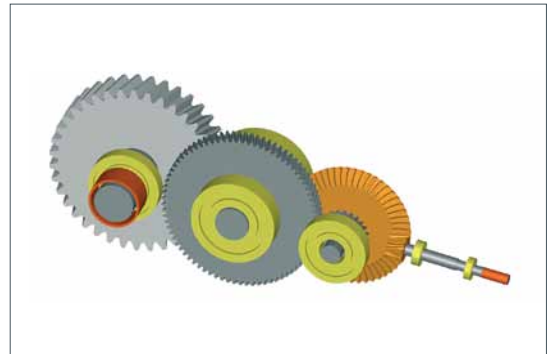
KISSsys

KISSsoft's system add-on enables you to model complete gear units. It enables you to analyze the gears, shafts, and bearings, all at the same time. KISSsys can be used to calculate any type of drivetrain kinematic. You can also use its integrated programming language to implement your own calculations and designs.



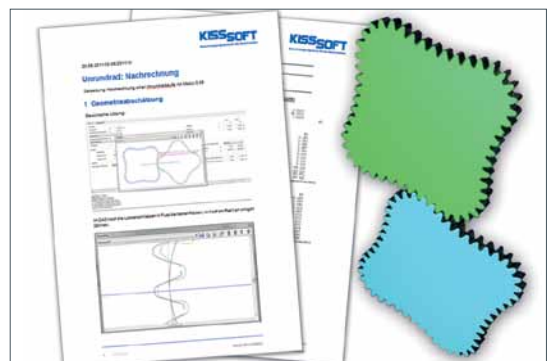
GPK

This package provides designers with frequently used basic models on which they can base their own gear calculations. As GPK allows designers access to all the functions of the KISSsoft installation, it is ideally suited for use with standard kinematics, such as industrial gearboxes.



Engineering and Consulting

These are important parts of the service we provide. We aim to support our customers at every stage in their product design. By working out the best possible solutions and providing expert advice, we can prepare the ground for ensuring the required product is manufactured as efficiently and cost-effectively as possible.



KISSsoft – SHARING KNOWLEDGE

Originally designed as in-house calculation software for the Zurich-based gear manufacturer L. Kissling & Co. AG, the use of KISSsoft has spread rapidly since the early 1980s to every sector of the mechanical engineering industry. In response to this demand, and to ensure the further development and maintenance of this suite of programs for the design, optimization and analysis of machine elements, KISSsoft AG was founded as an independent company in 1998 and has its headquarters in Switzerland.

„A tool is only as good as its user.“



Our software includes internationally recognized calculation standards and a plethora of design and optimization options, based on the experience of our customers and development engineers. Suggestions and recommendations from innovative companies throughout the world have all contributed to the further development of our software, ensuring that KISSsoft is always at the forefront of technology.

KISSsoft's specialists also provide regular training courses to guarantee our users have the very latest information at their fingertips:

- introductory courses for quickly getting to grips with the software's basic functions and the standards on which it is based
- advanced courses for optimization strategies
- courses on selected specialist topics
(for example, for small module gears made of plastic or dry powdered metal, for worm or bevel gears, or about new standards and how they are used/affect existing designs)

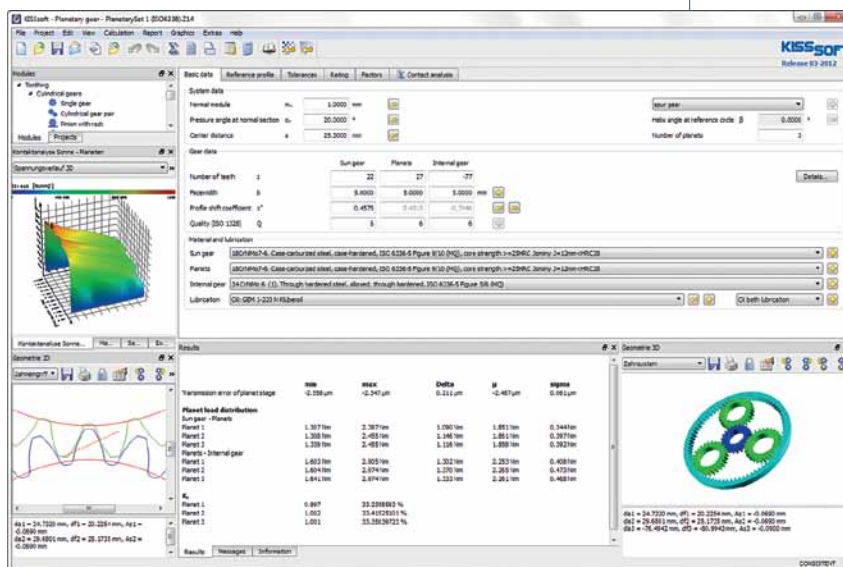
By attending the appropriate courses, every KISSsoft user can continuously build on and extend their knowledge of the system. Not only that, but we can also run in-house training courses to meet individual company requirements.

„SHARING KNOWLEDGE is the guiding ethos of our company.“

In addition to active exchanges of information at trade fairs and congresses, KISSsoft AG provides (e.g. with the organization of the Schweizer Maschinenelemente Kolloquium SMK – www.smk2012.ch) a neutral forum for discussing the very latest trends in this industry and passing on the results of various research projects.

„Let us share knowledge.“

KISSsoft: Gears



- Cylindrical gears
- Planetary gears
- Racks
- Bevel and hypoid gears
- Worm gears
- Crossed helical gears
- Face gears
- Non-circular gears

The gear calculation module can be used in different configurations (for gear pairs, for planetary gears, for three or four gears in series, for racks and for single gears). It can also handle bevel gears, hypoid gears, crossed helical gears, worms, face gears and non-circular gears. This module not only defines the geometry, but also the strength and service life of these gears. Its extensive range of additional calculations makes this module a one stop solution, that can also meet specialist requirements.

Strength

The strength calculation functions are based on current ISO, DIN, VDI and AGMA standards. With KISSsoft, you can perform quick and accurate strength verification calculations and also determine service life or transmissible performance. For special applications in the plastics industry, in the shipping industry, or for static applications, the module uses the relevant calculations, such as VDI guidelines or established technical literature.

It calculates safety against tooth root fracture, flank pressure, scuffing, micro pitting, flank breakage and wear. If a minimum safety factor is specified, it can also be used to calculate the transmissible power or the achievable service life. The module can also estimate wear values for metallic and dry running plastic gears.

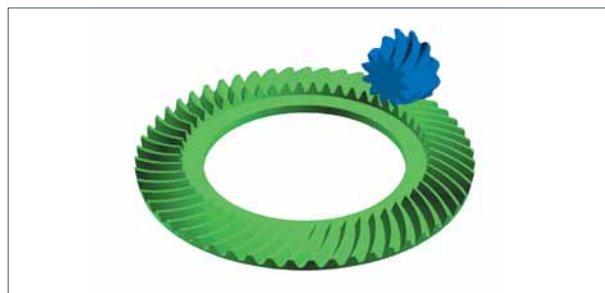
Geometry

The geometry calculation functions return all the necessary dimensions and measurements whilst taking into account all the relevant tolerances. You can use it to define profile and length modifications, create your own cutter definitions or select them from the database supplied with the system.

Sizings

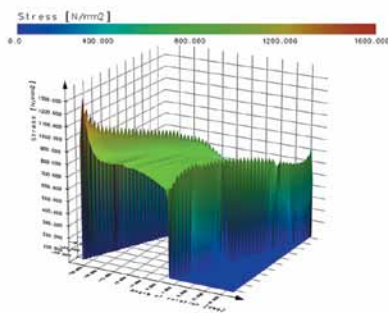
The module's numerous sizing functions allow you to optimize individual parameters such as the profile shift, the helix angle or the tooth height. The rough sizing functions calculate a number of gear pair variants as solutions to particular transmission tasks. The fine sizing functions calculate entire parameter ranges and can compare an existing solution with a multitude of variants.

The CAD Interfaces mean you can display gears as DXF or IGES files in 2D or output them as 3D models in STEP format. In addition to this, a range of direct interfaces are also available for connecting to the standard CAD systems used in the mechanical engineering industry.



Contact analysis for cylindrical gears

The contact analysis features can be used to perform more detailed noise and strength optimization functions. The module uses the tooth stiffness calculation method specified by Petersen to take into account tooth deformation when calculating local contact. This calculation also includes shaft deformation and gear modifications to enable a tooth contact analysis that is as realistic as possible. In addition to stress distribution and transmission error, the local lubrication gap, local wear and many other criteria are output as results.



Further calculations for helical gears

A wide variety of integrated calculation modules provide additional tools for optimizing or manufacturing gears, these include: operating backlash, master gear calculation, lubrication gap analysis and also a special report with the manufacturing tolerances specified in a range of different standards.

Bevel and hypoid gears

For bevel and hypoid gears, the calculation of geometry and control measures for straight, angled and spiral toothed bevel gears is based on the ISO 23509 standard. In addition to calculating the dimensions of bevel gears, you can also generate and export 3D models of these gears. The load-free contact characteristics can then be checked in advance on the model.

The strength calculation functions for bevel and hypoid gears include not only those specified in the ISO, DIN and AGMA standards but also the Klingelnberg cyclo-paloid system and an adaptation of the VDI guideline for plastic bevel gears. Furthermore, you can also run a static calculation for bevel gear pairs or for bevel gear differentials.

Worm gears

The calculations for worm gears include not only those for geometry and strength but also those that determine manufacturing tolerances in accordance with the relevant ISO and DIN standards. These are used to determine efficiency, temperature safety, pitting safety, wear safety, tooth fracture safety and bending safety. The starting torque under load is also defined using this module. The precise geometries of the most diverse range of flank forms (ZA, ZE, ZH, ZI, ZK, ZN, ZC) can also be taken into account.

The functions for sizing the facewidth, center distance, lead angle etc. round off the functions of the worm gear module.

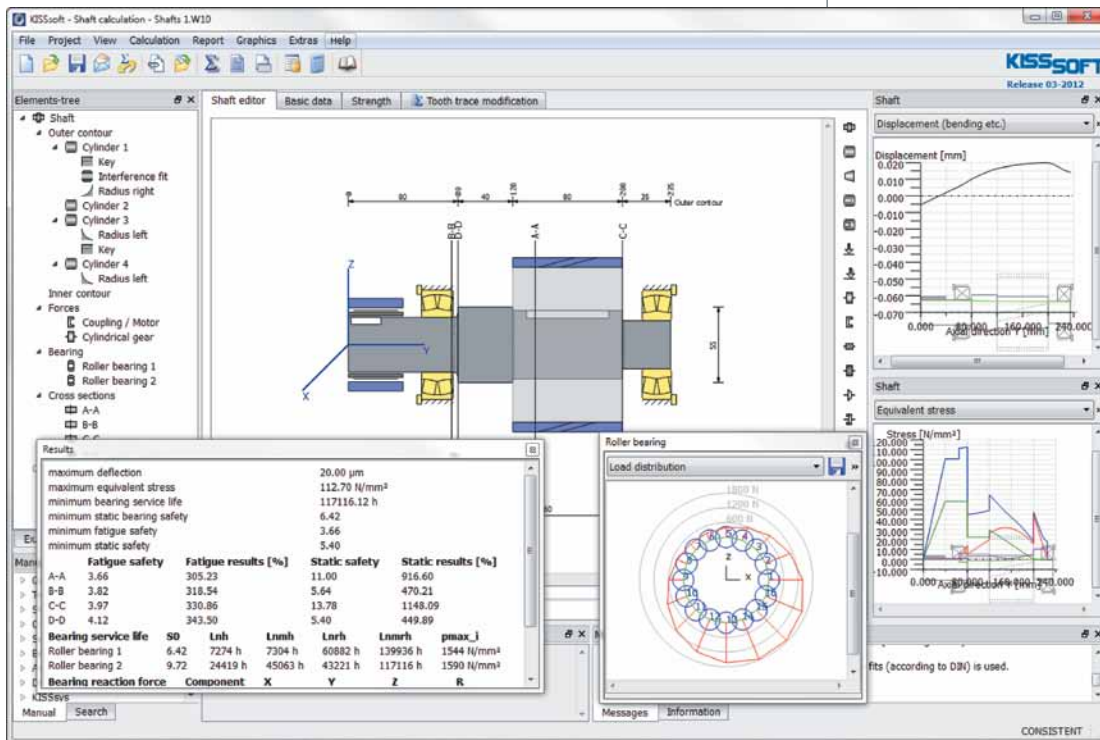
Globoid worm gears can be generated and then exported as 3D models in STEP format. The load-free contact characteristics can then be checked in advance on the model.

Crossed helical gears

The KISSsoft system's calculation of crossed helical gears (cylindrical gears with crossed axes) is based on G. Niemann's specifications in the standard technical literature, with the addition of functions for any axis or helix angle value. This function also calculates the control and manufacturing measures.

An extended strength calculation, combined with ISO method 6336, is also performed for crossed helical gears, making it possible to calculate all the strength values for this type of gear (root strength, flank strength, wear resistance and scuffing safety). The calculations for plastics listed in VDI 2545 have also been modified. The calculation of static strength takes into account bending and shearing.

KISSsoft: Shafts and Bearings



The shaft and bearing calculations are run to determine the shaft strengths and the modified rating life for roller bearings and to analyze hydrodynamic plain bearings according to the various standard and extended methods.

To achieve this, the shaft calculation module has an integrated bearing calculation function that has been specially developed for gearbox designers so they can calculate the shaft strength and modified life. If a designer already knows the bearing loads, they can use the independent bearing calculation functions. In both variants, they can either apply the classic method or run the calculation so that it takes the internal geometry into account.

Calculating shafts

The user can either input the geometry (including the notches of one or more shafts, support and loads) into the graphic shaft editor or import this data from a DXF file. As the support can be defined either as roller bearings or as general bearings, it is quite easy to define multiple supports. You can select the required roller bearing from a database of more than 20 bearing types from a wide range of manufacturers. The loads

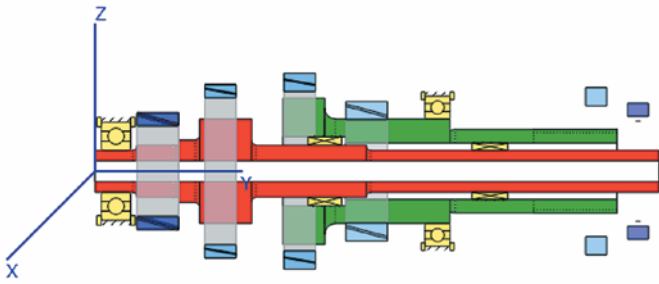
can either be defined in the „traditional“ manner by inputting the forces and torques or entered directly via force elements such as tothing (cylindrical gears, bevel gears etc.). This data is then used to calculate not only the diagrams of bending and torque progressions but also the bearing forces. Systems of coaxial shafts can also be calculated directly.

Individual load spectra can be assigned to every force element.

Shaft strength

The calculations specified in DIN 743, the FKM guideline, or according to Haenchen/Decker are available for calculating shaft strength. The strength calculation defined in DIN 743 „Tragfähigkeit von Wellen und Achsen“ (load capacity of shafts and axes) is an uncomplicated, but widely applicable method and is very often used in mechanical engineering.

The FKM guideline, implemented in KISSsoft, is the most comprehensive currently available calculation method and extends beyond the areas of application listed for DIN 743. This also makes it particularly suitable for certification purposes.



Integrated roller bearing calculation

The bearing loads are defined from the applied forces. In the case of bearings with inclined races (taper roller bearings, angular contact ball bearings and high precision angular contact ball bearings) the angled direction of pressure of the axial reaction force is taken into account as an additional bending moment. The calculation determines the static safety and also the modified rating life, either with or without taking the effect of the lubricant and load spectra into account.

In addition to the classic calculation method, the underlying principles for a calculation in accordance with ISO/TS 16281 (2008) have also been implemented. In this case, the reference service life and the pressure on the rolling body can both be determined by taking the internal bearing geometry into account. This calculation method not only supplies a clearly more accurate and detailed service life calculation method but also determines the non-linear bearing stiffness.

Pretension and thermal expansion values are also taken into consideration whilst calculating the bearing clearance and bearing tolerances. Axial pretensions are defined either by a bearing offset or directly by a force. Any housing deformation can be taken into account by rotating the bearing's outer ring. Furthermore, you can also input your own roller profiles.

To ensure you select the bearing with exactly the required service life, the sizing wizard uses the current load to calculate the service life and static characteristic number of all the bearings whose geometry matches the bearing type you selected. The results are then displayed in a table. You can then select the most suitable bearing from this table.

Tooth trace modification

Tooth trace modifications (crowning, helix angle) are usually applied to optimize meshing and to compensate for shaft deformations. In this case, the function calculates the shaft deformation in the position of the gear. Users can define the modification and then display it as a graphic so they can check it. The helix angle and the crowning values are output in their own report.

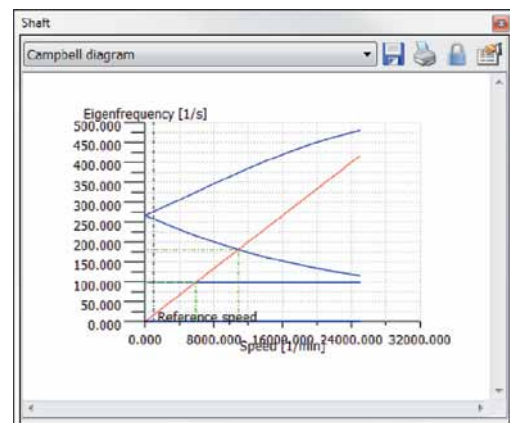
Campbell diagram

Eigenfrequency is calculated along with the gyroscopic effect and bearing stiffness values. Non-linear properties can also be taken into account. The critical revolutions with rotation in the same direction or rotation in the opposite direction are then calculated and the results displayed in a normal Campbell diagram.

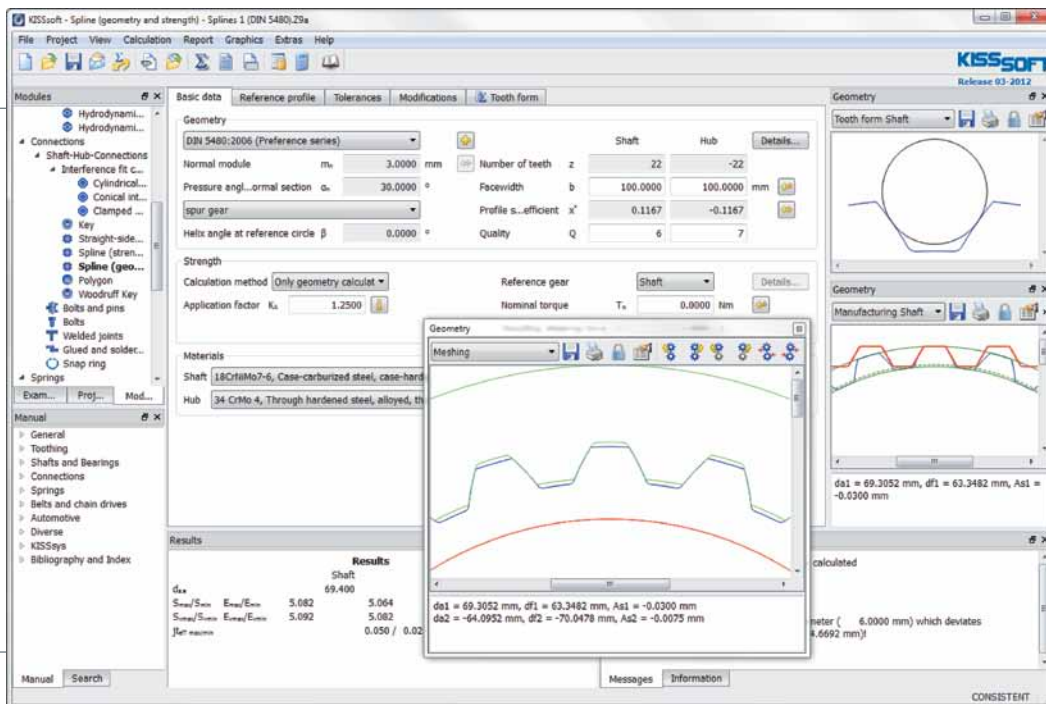
Plain bearing calculation

The plain bearing calculation functions include calculating of oil lubricated, hydrodynamic plain radial bearings and hydrodynamic axial journal bearings.

Two calculation methods (Niemann and DIN 31652) are used for plain radial bearings. DIN 31653 is used to calculate pad thrust bearings. This standard applies to bearings that have fixed sunken surfaces for lubrication which are separated from the rotating disks by a film of lubricant. DIN 31654 is used to calculate tilting-pad thrust bearings.



KISSsoft: Other Elements



Connection elements

The connection elements include the usual connection types for hubs on shafts which are used in a gearbox: Key, cylindrical or conical interference fit, clamped connections, splined joints, straight-sided spline, Woodruff keys and polygons. The relevant specialist DIN and ISO norms are used for these machine elements, both during the strength calculation and also for the geometry. Sizings are available for transmittable torques, supporting lengths or, in the case of interference fits, suitable fits and tolerances.

It also handles bolts and pins, glued, soldered and welded joints, and snap rings.

Springs

A database containing the most important spring materials, and different wire thicknesses, is provided in KISSsoft for calculating springs. It covers compression springs, tension springs, leg springs, disk springs and torsion bar springs. The spring characteristic line is displayed for you to view. For each spring type, the Goodman diagram is also generated and the embedding is calculated.

Bolts

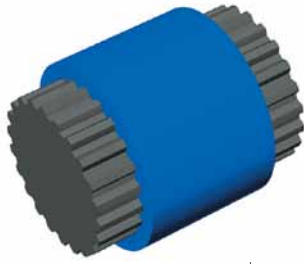
The calculation is based on VDI 2230, Edition 2003, and VDI 2230 Sheet 2, Draft 2011.

Single screws under axial and shear load, flanged connections with torque and bending moment, and brackets/flanges with any bolt position can be defined and processed. This also allows you to take into account any eccentric load and clamping, and check for gapping in the parting line.

Results from FEM calculations on the basis of VDI 2230 Sheet 2 can be entered directly and be taken into account during the calculation for the proof, in accordance with VDI 2230 Sheet 1. The calculation is performed with operating temperatures between -200 and $+1000$ degrees Celsius. You can specify different temperatures for the screw and the clamped parts.

Tables with the usual norm values are integrated for all elements involved. You can also define your own screws, with almost unlimited complexity, including hollow screws.

You can define plates, bushes, annulus segments or prismatic bodies as clamped parts. The program is



- Keys
- Fits
- Splined joints
- Bolts
- Springs
- Chains/belts
- Friction clutches and brakes
- Bolts and pins

able to make suggestions for the reference diameter and thread length.

Other graphics are also available that show the tension diagram, the assembly preload and the bolt geometry.

Chains/belts

The belt calculation in KISSsoft provides manufacturer-independent calculation of V-belts and toothed belts in accordance with the manufacturer calculation guidelines. Both calculation modules contain helpful sizing functions for the belt length, center distance and the necessary width, or the number of belts etc.

The geometry of the chains in the chains calculation is based on ISO 606. The calculation is based on the specifications in DIN ISO 10823. KISSsoft can provide suggestions for the chain type, the number of chain links and the center distance.

Synchronization

For synchronizations by Borg-Warner the synchronization forces are used as input and the total synchronization time is calculated. Otherwise you can determine the cycles safety factor and other parameters such as the friction power, as well as the temperature increase.

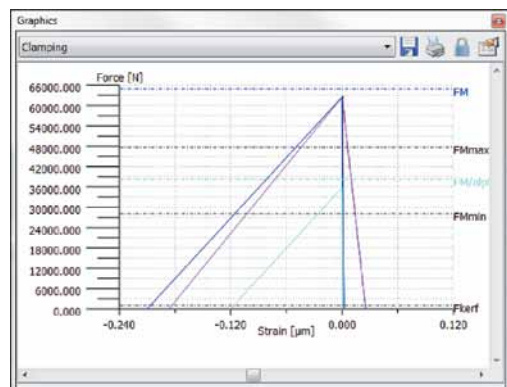
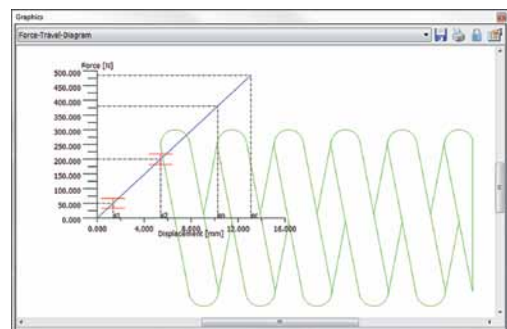
Friction clutches and brakes

The calculation method as specified in VDI 2241 has been implemented for friction clutches and brakes. The calculation is supplemented by sizing couplings on the basis of moments of inertia, torques and revolutions.

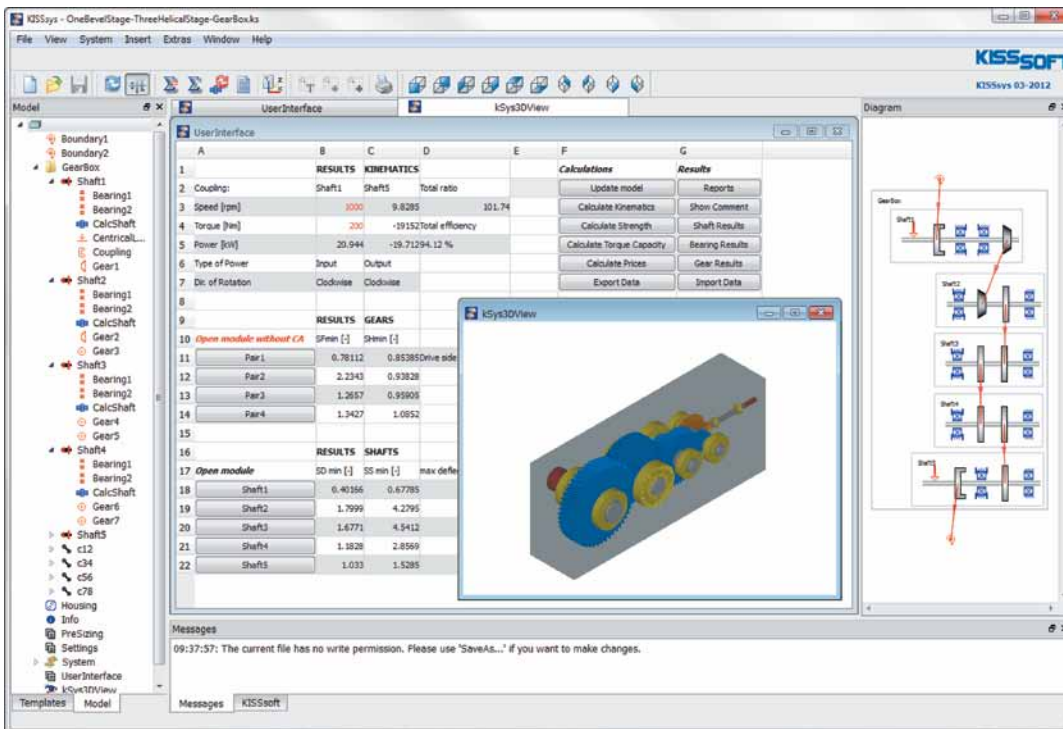
Other areas

Additional calculation modules, that cannot be directly assigned to machine elements, have been implemented. Their purpose is to provide the engineer with a tool that they can also use for smaller, general calculation problems in their familiar working environment:

- Tolerance calculation for summing several tolerances for a chain size, while taking into account statistical influences
- Hardness conversion for converting hardness values from one system to another
- Hertzian contact pressure calculation for spheres, cylinders etc.
- FKM guideline for proof of strength with local stresses
- Linear drive train



KISSsys: The System Add-on for KISSsoft



What is KISSsys?

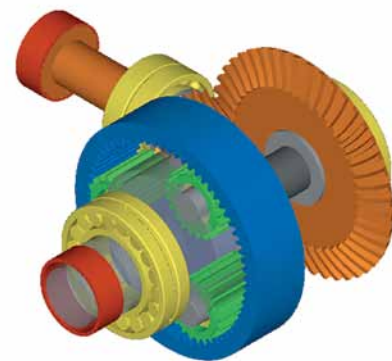
KISSsys is KISSsoft's system add-on that enables you to model complete gear units and drive trains.

KISSsys is used in a variety of areas, such as the automotive industry, wind power, agricultural engineering, electrical tool and industrial gearbox manufacturing, and many more.

With KISSsys you will find it much easier to perform gear calculations, especially, if you need to calculate several machine elements such as tothing, shafts and bearings. You can directly represent alternating load cases and avoid the need to carry out time-consuming and error-prone individual calculations.

To calculate the different machine elements, KISSsys uses KISSsoft in the background by transferring the operating data from the kinematics calculation to the relevant KISSsoft calculation and then displays the results in the KISSsys overview or gathers them in logs. During this process, the system can automatically create detailed documentation for the particular project.

Another strength of KISSsys is the integrated programming language which enables users to define their own tasks and calculations. To do so they can either use predefined templates or write their own functions. For example, in-house calculations can be integrated in KISSsys/KISSsoft, providing the user with a comprehensive package of calculations to use.



GPk

GPk is a package for sizing and rating complete gearboxes, based on KISSsys. It provides the user with 17 basic models of gearboxes as templates.

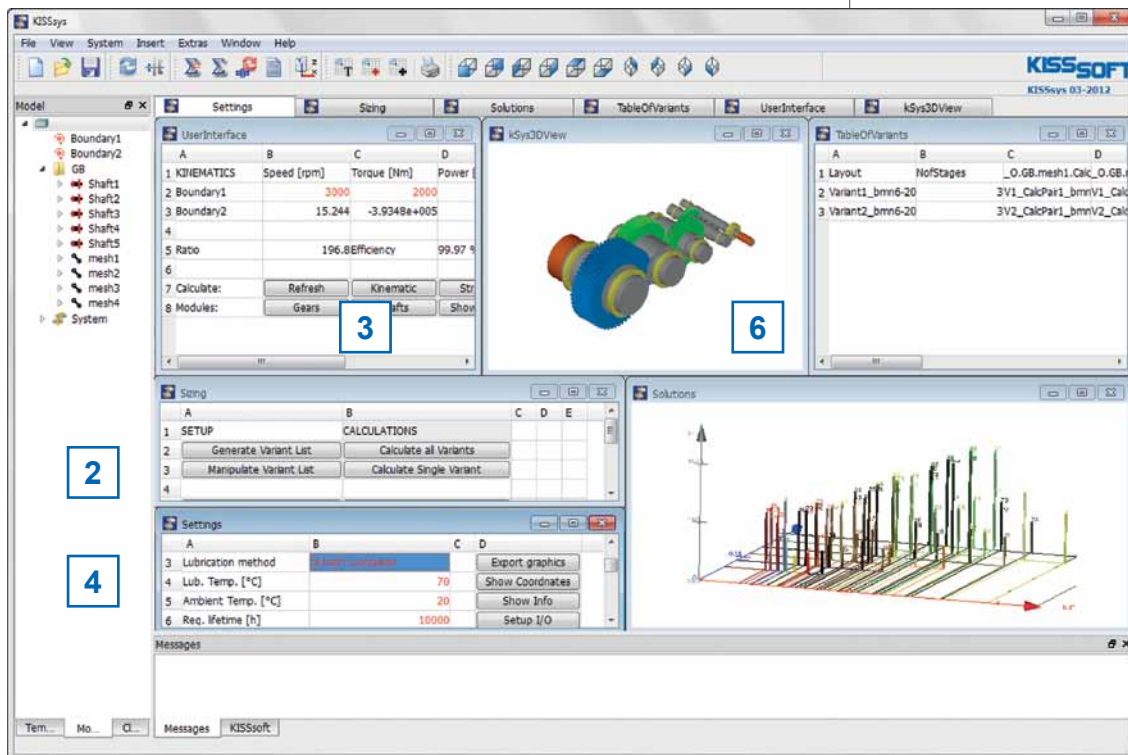
It provides a wide range of functions for, for example, sizing gears, shafts and bearings. These are based on the operating data. Optimizations can be determined directly, using the price calculation functions or checks on collisions between the elements or with the housing.

GPk contains the KISSsys system add-on without the option to change the kinematics and programming. Consequently the GPk models are restricted to the contained kinematics. The user can use the „Gearbox variant calculation“ function for sizing over different stage numbers.

„Gearbox variant generator“

The „Gearbox variant generator“ adds an efficient method for automatically creating numerous variants of gearboxes to KISSsys.

Usually the maximum external size is predefined, and at the same time it must be ensured that the manufacturing costs are kept to a minimum. In addition, the designer must take into account weight, total power loss and other relevant factors. The designer can use the gearbox variant generator to perform rapid, yet detailed investigations of the parameters for a complete drive train so that they can compare different variants of a concept.



- (1) Results window: 3D Diagram used to display the most important results for the calculated drive variants
- (2) Sizing window: Contains the various sizing functions
- (3) User interface: This is where you input the required torque and number of rotations

- (4) „Settings“ dialog: Here you input general data, such as the lubrication type, and select the calculation method
- (5) Variants table: Lists the different reduction gears from which you can make your selection
- (6) 3D View: Displays the selected variant

KISSsoft & KISSsys: Applications

The KISSsoft calculation program and its KISSsys system add-on are very comprehensive and, also helped by their modular structure, can therefore be used in a wide range of areas:

Industrial gearboxes

Verification and sizing of tothing in accordance with norms, contact analysis for noise reduction and profile corrections, standard templates for very fast presizing with estimate of installation space and cost calculation. Optimization of gears on the basis of standard tools, optimization of the power density and the efficiency, calculation of the service life and the transmissible power, roller bearing service life with thermal influences, roller bearing calculation, also for superimposed shafts, while also taking into account the internal geometry, analysis of the load distribution, damage calculation with load spectra.

Vehicle construction

Intermeshings with profile and helix angles without restrictions can be defined, profile shifts up to the top-land, multiple manufacturing stages with logging of measurements, sizing of deep tooth forms for the required contact ratio, optimization of the tooth form for minimum transmission error and analysis of sliding velocities and the stress curve (root as well as flank) under load, modeling of entire drive trains (speed change gear unit, axle drives, CVT drives and others), KISSsys model for variant calculation of speed change gear units of any construction type.

- Industrial gearboxes
- Vehicle construction
- Bearing manufacturing
- Tothing manufacturing
- Precision mechanics

Bearing manufacturing

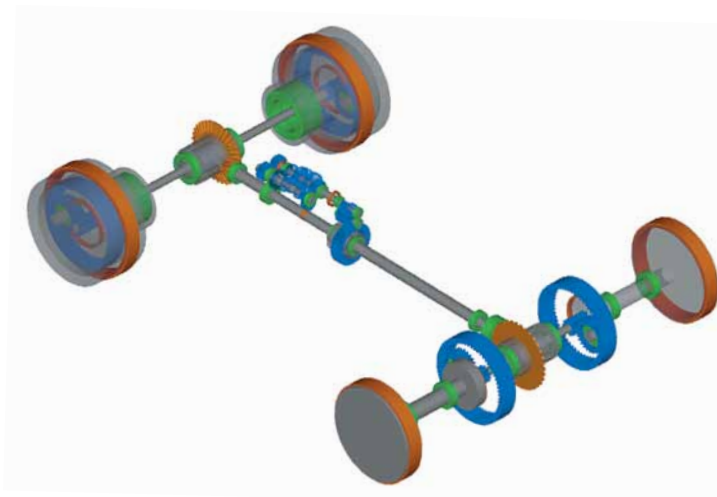
Calculation of the modified rating life in accordance with ISO/TS 16281 (including or excluding the influence of the lubricant), calculation of bearing stiffness values as a matrix, representation of any kinematics in KISSsys for calculating torque progressions.

Tothing manufacturing

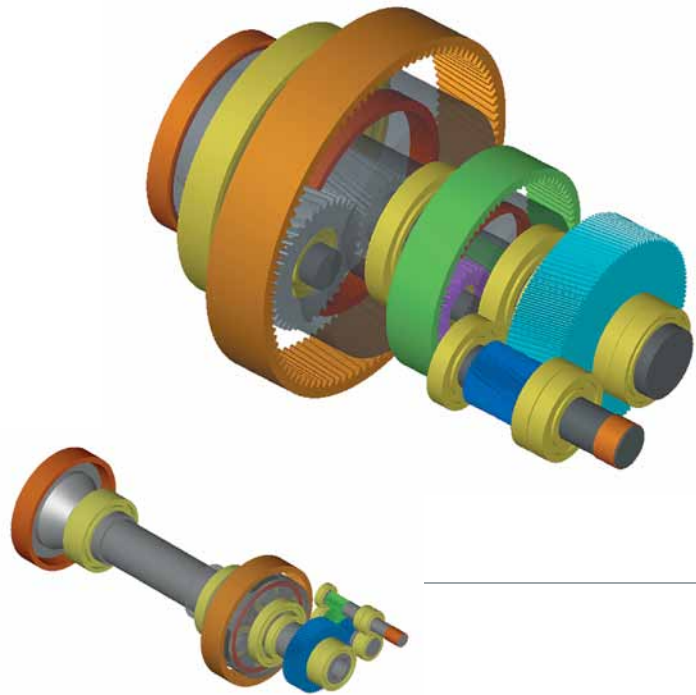
Definition of the exact geometry for tothing types (that are possible without strength calculation), 2D or 3D STEP model output, calculation of flank measurement points.

Precision mechanics

Different materials for sintered metals and plastics from different industrial suppliers, topping tools, calculation of all dimensions present in the contact ratio and the backlash, taking into account tolerances and manufacturing tolerances.



- Plastic toothing
- Turbo gearbox manufacturing
- Wind power
- Ship-building
- Specialist areas



Plastic toothing

Strength calculation with temperature, extendable database with polymer data, calculation of the operating backlash, taking into account the influence of manufacturing and mounting tolerances, and also temperature and swelling; determination of injection molding forms by compensating for the shrinkage and spark gap, optimization of the root form, contact analysis with deflection of the tooth and local wear calculation on the basis of the wear value, import and output of the tooth form as a DXF or IGES file.

Turbo gearbox manufacturing

Sizing of profile shift, suggestions for profile corrections, calculation of the operating backlash with temperature influence and manufacturing tolerances for minimum clearance, calculation of plain bearings and roller bearings.

Ship-building

Different specific norms for marine gearbox manufacturing and certification, flank breaking in accordance with ANNAST and DNV.

Specialist areas

Import and export of tooth forms and tool forms from CAD files, specifying tooth forms or tool forms, strength analysis.

Wind power

Damage calculation with load spectra, calculation of the roller bearing service life in accordance with ISO/TS 16281 (and taking into account the internal geometry), certification with the very latest technical methods, automatic documentation creation; modeling of gearing concepts of any complexity in KISSsys, with coupled epicyclic stages, and non-linear or variable elements such as hydrostatic drives.



KISSsoft & KISSsys

Facts and services

KISSsoft is an internationally recognized calculation program that is used as a reference for data exchange and verification by many well-known companies. It offers the following benefits:



- The scope of the application ranges from a single machine element up to the automatic sizing of complete gear units
- It covers numerous machine elements such as gears, shafts and bearings, springs, keys, interference fits etc.
- All currently used gear types, such as cylindrical gears, and also planetary gears, bevel gears, worms etc. are available
- Gearboxes and drive trains can be modeled and optimized in KISSsys
- The faster gear variant calculations save both time and effort
- Designs can be optimized using freely selectable criteria such as service life, noise production, weight etc.
- Risks and potential future damage can be assessed and prevented
- International calculation standards are implemented and updated on an ongoing basis; active participation in standards committees ensures first hand knowledge
- Integrated in all standard CAD systems
- Tailor-made, individual software packages can be supplied
- Compatibility with current hardware and software to facilitate maintenance
- General and subject-specific training courses, in-house training courses
- Engineering and consulting considering optimal product design
- Integration of user suggestions to improve functionality

Testimonials

Edwin C. Hahlbeck, Powertrain Engineers, Inc.,
Wisconsin/United States

„As you know, we have been early users of KISSsoft programs here in the USA. As consultants engaged in gearbox design for energy, mining, industrial, telescopes, turbo equipment and other applications we are using your software most every day. It is solid and dependable, broad in scope, integrated well and continuously improving. At our firm we use all the gear rating programs, shaft analysis and bearing design extensively. The fit analysis is also very important with calculation of micro-slippage and added bonus.

The software has incredible depth and flexibility. It's obvious to me that it comes from experienced engineers who have been there and done that. We have used it in submittals for review by API, DNV and GL without ever a question related to this product.

We have found the support for problems or questions to be exceptional, and handled well by staff that quickly interprets our needs, typically on first communication. We recommend this product for static analysis for anyone engaged in mechanical design, without reservation.“

Dolejš Jiří, SEW-EURODRIVE CZ,
Pilsen/Czech Republic

„Calculation program KISSsoft has been used in SEW-Eurodrive CZ company since 2004 on two seats of node locked licenses. Thanks to the modular structure of KISSsoft and wide variety of calculation modules, it is possible to assemble a tool for technical calculations tailored exactly according to user's needs, alternatively according to customer's needs. In case of necessity, it is possible to add another compatible module. Since the beginning of our usage of this software, KISSsoft has underwent many changes. New functions are added on regular base and the current functions are improved.“

Sonja Goris, ZF Wind Power Antwerpen NV,
Antwerp/Belgium

„As a leading wind power drive manufacturer, we are delighted to work with KISSsoft. We use the KISSsoft software on an ongoing basis, along with other software suites, when developing our drives for wind power units in the 1.5 to 6+ MW range. We particularly appreciate the range of functions provided by KISSsoft, and its user-friendly interface, which means that the variant and certification calculations are performed in a clear and easy to understand manner.“

Mikel Oiarbide, CAF, S.A., Beasain/Spain

„The KISSsys/KISSsoft suite is a very useful and easy tool to design and calculate mechanical transmissions. The training courses are very good, either in English at the headquarters in Switzerland or in Spain with the collaboration of Dr. Piña. I, personally, have always received a fast and good technical response, when I call the KISSsoft technical support.

Thanks to this tool, we can quickly design and calculate pre-designs of our reducers. Then, in the phase of the detailed sizing, it also allows you to define everything related to the main elements of the power transmission.“

Tomasz Wróblewski, FLSmidth MAAG Gear Sp. z o.o.,
Elbląg/Poland

„We are a large gear manufacturing company. The KISSsoft and KISSsys calculation software suites are an essential part of our business and are used together with our own specialized in-house toothing software programs. We use KISSsoft's highly efficient sizing functions to size the toothings. KISSsoft can even handle the calculations involved in shaft and bearing calculations for use in heavy industry.“

KISSsoft – SHARING KNOWLEDGE

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