KISSsoft Release 03/2014

Module List

Highlights

- Strength calculation and 3D models of beveloid gears
- Simulation of flank wear based on iterative calculation
- COM-Interface
- 3D display of shafts and bearings
- Efficiency and thermal rating in KISSsys

and many more

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Offer

The software KISSsoft has a modular structure: a variety of calculation modules are available. You can limit the amount of modules to suit your requirements.

Get to know

Our free 30 days test version enables you to evaluate and select the modules independently before purchasing a license.

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## Basic Packages

### Modules

<table>
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<th>Modules</th>
<th>Description</th>
</tr>
</thead>
</table>
| **ZPK** | Cylindrical gear package  
Geometry, control measures (DIN 3960, SIN 3962, DIN 3963, DIN 58400)  
Tolerance values according to updated ISO 2328-1:2013 **NEW**  
Calculation and presentation 2D and 3D of the tooth form for external and internal toothing with tooth flank modification  
Graphical display of specific sliding  
One strength calculation, either according to DIN 3990 or ISO 6336 or AGMA 2001 or VDI 2545 or VDI 2736  
Tooth friction / power loss acc. to Niemann  
Extended range for possible profile shift  
Deep tooth form / short cut tooth form, Cutter/Tool  
Flash temperature course  
Scuffing according to DIN3990 and ISO TR 13989  
Micropitting according to ISO TR 15144:2010 (Method B)  
Arc of a circle or spline approximation for 2D output (requires CA1)  
Manufacturing drawing  
Rights: Z01, Z02 (or Z02a or Z13 or Z14 or Z14a), Z05, Z05l, Z5i, Z19e, Z19m |
| **WPK** | Shafts and bearing standard package  
Calculation of deformations also for statically overdetermined systems / multiple supports, and line loads, Input of linear stiffness  
3D graphics for forces and bending line **NEW**  
Pressure angle and transverse shear  
Roller bearing service life (ISO281, L10)  
Bearing power losses  
One strength calculation (static and endurance): either according to DIN 743 or FKM or according to Hänchen & Decker  
Smith and Haigh diagram  
Rights: W01, W01c, W03, W03a, W05, W06a (or W06b or W06c), K07b |
| **MPK** | Shaft-hub-connections  
Cylindrical interference fit  
Conical interference fit  
Keys and Woodruff key  
Multi-Spline, Polygonal connection  
Involute splined shaft  (DIN5480, ANSIB92, ISO4156, DIN5482)  
Flank form “straight line” (DIN5481)  
Bolts and pins, welded, glued and soldered joints  
Clamped connections according to Roloff/Matek, Snaprings  
Rights: M01a, M01x, M01b, M1c, M02a, M02e, M02b, M02d, M02c, Z09, M03a, M08, M09, Z5n, M05 |
| **SPK** | Bolt calculation according to VDI2230  
Single bolt with axial and shearing force  
Cylindrical flange  
General connections with user-defined screw configurations (sheet 2)  
Input of results from FEM calculation (sheet 2)  
Considers high and low temperatures, temperature differences  
Rights: M04, M04a, M04b |
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
</table>
| **FPK** | Springs  
  Tension springs, compression springs, disc springs, leg springs, torsion springs  
  Rights: F01, F02, F03, F04, F05 |
| **APK** | Automotive  
  Synchronization according to Borg/Warner allows for the calculation of either time  
  or force for gear shifting  
  Friction Clutches  
  Rights: A10, A20 |
| **RPK** | V-belts, toothed belts, chain drives  
  Strength and dimensioning, roller diameter, distance between axes, number of  
  belts, with or without tensioning pulley  
  Rights: Z90, Z91, Z92 |
| **LPK** | Stress analysis with local stresses according to FKM Guideline 2012,  
  6th Edition  
  Consideration of support effect, for fatigue and static load  
  For calculation of safety factor and service life on basis of an external FEM  
  calculation  
  Rights: K12 |
| **VPK** | Linear drive train and Spindles according to Roloff/Matek  
  Calculation of safeties against buckling, flank pressure and more, for the operation  
  modes tightening and loosening  
  Rights: K15 |
| **TPK** | Tolerance analysis  
  Maximum- minimum dimension analysis, statistic analysis, tolerances: ISO / own  
  input  
  Rights: K10 |
| **HPK** | Hardness conversion  
  Hardness conversion according to DIN EN ISO 18265  
  from and to HB, HRC, HV, Rm, etc.  
  Rights: K09 |

**Basic Package Gearbox**

**Modules**  
**Description**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>KPK-G</strong></td>
<td>ZPK, WPK, MPK, TPK, HPK, Hardness conversion</td>
</tr>
</tbody>
</table>

**Basic Packages Complete**

**Modules**  
**Description**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
</table>
| **KPK** | ZPK, WPK, MPK, SPK, FPK, RPK, LPK, TPK, HPK, VPK, APK  
  Hardness conversion |
## System modules

### KISSsys

<table>
<thead>
<tr>
<th>Modules</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYS</td>
<td>KISSsys</td>
</tr>
<tr>
<td></td>
<td>Software extension for the calculation of complete systems with power transmission calculation, administration of variants and integrated programming language, import of CAD data, collision check</td>
</tr>
<tr>
<td></td>
<td>Assistant for parallel shafts and planetary stages</td>
</tr>
<tr>
<td></td>
<td>Includes GPK</td>
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<tr>
<td></td>
<td>Requires corresponding KISSsoft modules (minimum WPK, ZPK)</td>
</tr>
<tr>
<td></td>
<td>Rights: K11, K11a, K11c</td>
</tr>
</tbody>
</table>

### Extended Development Environment for KISSsys

<table>
<thead>
<tr>
<th>Modules</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSE</td>
<td>Interface to Eclipse, Development Environment for KISSsys functions, incl. Debugging and Breakpoints feature. (requires KISSsys)</td>
</tr>
<tr>
<td></td>
<td>Rights: K11e</td>
</tr>
</tbody>
</table>

## Gearbox Configurations

<table>
<thead>
<tr>
<th>Modules</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPK</td>
<td>Package for sizing and rating of complete gearboxes (bearings, shafts, gears) based on KISSsys</td>
</tr>
<tr>
<td></td>
<td>One to five stage cylindrical gearbox</td>
</tr>
<tr>
<td></td>
<td>One to four stage bevel-cylindrical gearbox (requires min. ZC1)</td>
</tr>
<tr>
<td></td>
<td>One to four stage worm-cylindrical gearbox (requires min. ZD1)</td>
</tr>
<tr>
<td></td>
<td>One and two stage planetary gearbox (requires ZA1), with coaxial shafts (requires WA1)</td>
</tr>
<tr>
<td></td>
<td>Efficiency calculation NEW</td>
</tr>
<tr>
<td></td>
<td>Load spectrum (requires ZZ1, WA8) NEW</td>
</tr>
<tr>
<td></td>
<td>Requires corresponding KISSsoft modules (minimum WPK, ZPK)</td>
</tr>
<tr>
<td></td>
<td>Rights: K11, K11c</td>
</tr>
</tbody>
</table>

## Gearbox Variant Generator

<table>
<thead>
<tr>
<th>Modules</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>KS1</td>
<td>KISSsys model for the sizing of Gearbox variants</td>
</tr>
<tr>
<td></td>
<td>Automatically generates a set of gearboxes with different numbers of stages and different ratio distribution from total ratio and torque</td>
</tr>
<tr>
<td></td>
<td>Results will be displayed in 3D</td>
</tr>
<tr>
<td></td>
<td>For helical gearboxes with first stage as cylindrical-, bevel-, worm- or crossed helical gearstage, and for planetary gearboxes (requires KISSsys or GPK)</td>
</tr>
<tr>
<td></td>
<td>Rights: K11f</td>
</tr>
</tbody>
</table>
## Expert Modules Gears

### Cylindrical Gears

#### Configuration / Dimensioning

<table>
<thead>
<tr>
<th>Modules</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZA1</td>
<td>Planetary gear, Three gears, Four gears, rights: Z01a, Z19g</td>
</tr>
<tr>
<td>ZA2</td>
<td>Rack, Rights: Z01b</td>
</tr>
</tbody>
</table>
| ZA3     | Rough sizing  
  Cylindrical gear pre-sizing (gear pairs, planetary trains)  
  Sizing according to given safeties, several proposals  
  Rights: Z03 |
| ZA4     | Fine sizing  
  Gear pairs, planetary trains, gear chains  
  The optimization produces a list of all possible variants with various parameters;  
  varying of gear module, number of teeth, profile shift, pressure angle, helix angle, center distance  
  Considers assembly conditions  
  For each solution a separate strength calculation is performed  
  Automatic sizing of deep tooth form (requires module ZA5)  
  Calculation of transmission error for all variants (requires module ZA30)  
  Classifies all feasible solutions regarding different criteria  
  Graphical display of the classification  
  Rights: Z04, Z04a |
| ZA5     | Sizing of profile shift related to various criteria  
  Calculation of profile shift based on measured tooth geometry  
  Calculation of tooth thickness allowances based on measured tooth geometry  
  Premanufacturing tools with grinding allowance, Topping tools  
  Sizing for tooth height regarding contact ratio  
  Sizing of linear profile modification  
  Proposal for recommendable tooth trace correction  
  Sizing of lengthwise crowning and helix angle modification considering the axis misalignments according to ISO 6336-1, Appendix E (requires ZA35)  
  Calculation with manufacturing profile shift  
  Sizing of center distance regarding balanced specific sliding  
  Sizing of helix angle regarding various criteria  
  Profile and tooth trace diagram (K diagrams)  
  Rights: Z01x, Z15, Z19a, Z19d, Z19f, Z19h, Z19l, Z19n |

### Methods for Strength Calculation

<table>
<thead>
<tr>
<th>Modules</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZA10</td>
<td>ISO 6336 edition 2006, Rights: Z02a</td>
</tr>
<tr>
<td>ZA11</td>
<td>DIN 3990, Rights: Z02</td>
</tr>
<tr>
<td>ZA12</td>
<td>AGMA 2001, AGMA 2101, Rights: Z13</td>
</tr>
<tr>
<td>ZA13</td>
<td>VDI 2737 tooth root load capacity of internal gear with influence of rim thickness, Rights: Z23</td>
</tr>
<tr>
<td>------</td>
<td>-----------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>ZA14</td>
<td>FVA (output of analogue results like STplus), Rights: Z10</td>
</tr>
<tr>
<td>ZA15</td>
<td>Graphical method, Rights: Z19i</td>
</tr>
<tr>
<td>ZA16</td>
<td>AGMA 925, Lubrication gap EHD and flash temperature course acc. to AGMA Rights: Z19k</td>
</tr>
<tr>
<td>ZA17</td>
<td>VDI 2545 (plastics), Rights: Z14</td>
</tr>
<tr>
<td>ZA18</td>
<td>Static strength (metal and plastic), Rights: Z02x</td>
</tr>
<tr>
<td>ZA19</td>
<td>BV-RINA for military vessels, RINA 2010 for commercial vessels DNV41.2 (requires ZA10), Rights: Z02b</td>
</tr>
<tr>
<td>ZA20</td>
<td>AGMA 6011, AGMA 6014, AGMA 6004, API 613, Rights: Z13b</td>
</tr>
<tr>
<td>ZA21</td>
<td>VDI 2736 for Plastics (sheet 2), Rights: Z14a NEW</td>
</tr>
</tbody>
</table>

**Calculation with Load Distribution**

<table>
<thead>
<tr>
<th>Modules</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZA30</td>
<td>Contact Analysis of cylindrical and planetary gears, taking into account shaft deformation and tooth flank modifications&lt;br&gt;Path of contact under load&lt;br&gt;Calculation and display of Hertzian pressure and tooth root stress along the actual tooth flank&lt;br&gt;Calculation of tooth mesh stiffness and transmission error under load based on the actual tooth form&lt;br&gt;Display of specific sliding, sliding velocity and sliding factors for gears under load from actual tooth form&lt;br&gt;Display of friction loss and local heat generation along the meshing&lt;br&gt;Rights: Z24, Z25, Z27, Z32, Z34</td>
</tr>
<tr>
<td>ZA31</td>
<td>Calculation of wear for cylindrical gears&lt;br&gt;Based on the simulated contact, for plastics (dry run) and steel (cold wear)&lt;br&gt;Simulation of wear progress for realistic prediction of the wear distribution NEW&lt;br&gt;Rights: Z31, Z32, Z31a, Z34</td>
</tr>
<tr>
<td>ZA32</td>
<td>Calculation of safety against micropitting according to ISO TR 15144,&lt;br&gt;Calculation of lubrication gap according to ISO 15144 and AGMA 925&lt;br&gt;With actual normal force based on the contact analysis&lt;br&gt;Rights: Z30, Z32, Z34</td>
</tr>
<tr>
<td>ZA33</td>
<td>Optimization of tooth flank modifications&lt;br&gt;Classifies all feasible solutions regarding different criteria&lt;br&gt;Graphical display of the classification&lt;br&gt;Cross varying of values and coefficients and synchronizing of steps NEW&lt;br&gt;(requires ZA30, or ZA31, or ZA32), Rights: Z33</td>
</tr>
<tr>
<td>ZA35</td>
<td>KHbeta according to ISO6336 Annex E&lt;br&gt;Gap and load distribution are shown for all combination of (±/−) fma and (±/−) fhb in graphs and listed in the report. Also shown for single planets NEW&lt;br&gt;Rights: Z02c</td>
</tr>
</tbody>
</table>
### Master Gears

<table>
<thead>
<tr>
<th>Modules</th>
<th>Description</th>
</tr>
</thead>
</table>
| ZA40    | Master gears  
 Master gear analysis and check, Rights: Z29 |

### Gear Pumps

<table>
<thead>
<tr>
<th>Modules</th>
<th>Description</th>
</tr>
</thead>
</table>
| ZB1     | Gear pumps, Basic calculation  
 Calculation of the transported volume of oil for gear pumps (without consideration of any feed-back volume)  
 for internal and externally geared pumps  
 for both standard involute and non-involute profiles  
 can be combined with fine sizing  
 Rights: Z26 |
| ZB2     | Gear pumps, Enhanced calculation  
 Calculation and presentation of the pump characteristics during contact for detailed analysis and optimization  
 Enclosed volume during mesh (feed-back volume), volume under critical in-flow speed at the narrowest point in entry chamber, total volume under entry pressure, torque on both gears (including option for calculation with or without Hertzian Pressure consideration), sliding velocity, wear number  
 Alternatively, the Hertzian flattening due to tooth contact can be considered  
 Rights: Z26a |

### Bevel Gears

<table>
<thead>
<tr>
<th>Modules</th>
<th>Description</th>
</tr>
</thead>
</table>
| ZC1     | Bevel and hypoid gears geometry  
 Geometry according to DIN 3971 and ISO 23509  
 dimensions of bevel gears (measurements for manufacturing), for straight, helix- and spiral bevel gears  
 Conventional production, Klingelnberg or Gleason  
 Conversion of Gleason bevel-gear geometry data to DIN 3971 and vice versa  
 Rough sizing  
 Rights: Z07, Z07d, Z07m |
| ZC10    | Generation of 3D model for straight and helical bevel gears with modifications (tip apex not in one point) and spiral toothed bevel gears with modifications, for export. Visual checking of the load free tooth contact, through rotation of one single gear or both gears  
 (requires CB1, ZY1). Rights: Z07p |
| ZC2     | Strength calculation according to ISO 10300 and ISO 10300:2014 method B and C,  
 Rights: Z07e NEW |
| ZC3     | Strength calculation according to DIN3991, Rights: Z07g |
| ZC4     | Strength calculation according to AGMA2003-B97 and AGMA2003-C10  
 Rights: Z07j |
| ZC5     | Strength calculation according to Klingelnberg KN3030 1.2  
 (Spiral Bevel, Palloid and Cyclo-Palloid), Rights: Z07a |
**ZC6**
Strength calculation according to Klingelnberg KN 3030 1.2 (Hypoid, Palloid, Cyclo-Palloid), Rights: Z07b

**ZC7**
Strength calculation according to VDI 2545 and Niemann, rights: Z07h

**ZC8**
Static strength bevel gears / differentials, Rights: Z07i

**ZC9**
Strength according to ISO 10300:2014 for hypoid gears, Rights: Z07l NEW

**ZC11**
Strength calculation according to DNV 41.2, root and flank strength, flank breaking, safety, hardening depth, Rights: Z07l

**ZC12**
Fine sizing for bevel and hypoid gears
Rights: Z07n

### Worm Gears (Globoid)

<table>
<thead>
<tr>
<th>Modules</th>
<th>Description</th>
</tr>
</thead>
</table>
| ZD1     | Worm gear geometry  
Cylindrical Worms with enveloping worm wheels, geometry according to ISO 14521 and DIN 3975  
Control measures for worms (measurement over 3 pins) and worm wheels (measurement over balls)  
Worm sizing with tool module  
Rights: Z08 |
| ZD10    | Generation of 3D model for export. Visual checking of the load free tooth contact, through rotation of one single gear or both gears  
For flank forms ZA, ZI and ZN, ZC, ZK (requires CB1, ZY1) Rights: Z08p |
| ZD2     | Strength calculation according to ISO 14521 (draft), Rights: Z08b |
| ZD3     | Strength calculation according to DIN 3996, Rights: Z08a |
| ZD4     | Strength calculation according to AGMA 6034 und AGMA 6135, Rights: Z08c |
| ZD5     | Fine sizing for worm gears  
Rights: Z08n |

### Crossed Helical Gears or Worm Gears (Cylindrical-Worm Gear)

<table>
<thead>
<tr>
<th>Modules</th>
<th>Description</th>
</tr>
</thead>
</table>
| ZE1     | Geometry of crossed helical gears  
Calculation of crossed helical gear and und worm (cylindrical worm and cylindrical worm gear– as e.g. usual in precisions mechanics)  
Control measures for worms (measurement over 3 pins) and worm wheels (measurement over balls)  
Rights: Z17 |
| ZE2     | Strength calculation on the basis of ISO 6336/Niemann, method Hirn, Rights: Z17a |
| ZE3     | Strength calculation for plastics on the basis of VDI 2545/Niemann, method Hoechst, Rights: Z17b, Z17c |
| ZE4     | Static strength (bending and shearing) for metal and plastic, Rights Z17d |
| ZE5     | VDI 2736 für Plastics (sheet 3)  
NEW Rights: Z17e |
### Face Gears

<table>
<thead>
<tr>
<th>Module</th>
<th>Description</th>
</tr>
</thead>
</table>
| ZF1    | Face gears geometry  
Calculation module that calculates the geometry of face gears coupled with cylindrical pinion gears. 2D views with tooth form simultaneously on the inside, at the centre and on the outside. Checking undercut and pointed tooth tip is performed graphically in the 2D view, while tooth addendum height can be varied to prevent pointed tooth tip (including sizing function). Sizing of optimal facewidth. Rights: Z06 |
| ZF10   | Generation of 3D model, with offset and shaft angle by choice, for export (requires CB1). Visual checking of the load free tooth contact, through rotation of one single gear or both gears. Rights: Z06f |
| ZF2    | Strength calculation on the basis of ISO6336 and literature. Rights: Z06a |
| ZF3    | Strength calculation on the basis of CrownGear/ASS/DIN3990. Rights: Z06b |
| ZF4    | Strength calculation on the basis of ISO10300, Method B. Rights: Z06c |
| ZF5    | Strength calculation on the basis of DIN3991, Method B. Rights: Z06d |
| ZF6    | Static strength calculation. Rights: Z06e |

### Non-Circular Gears

<table>
<thead>
<tr>
<th>Module</th>
<th>Description</th>
</tr>
</thead>
</table>
| ZG1    | Calculation of non-circular gears  
Only sold in combination with an engineering executed by KISSsoft AG. A special description for the usage of the tool will be part of the delivery. Rights: Z40 |

### Beveloid Gears (available as beta in this version and for purchase in version 03-2015)

<table>
<thead>
<tr>
<th>Module</th>
<th>Description</th>
</tr>
</thead>
</table>
| ZH1    | Beveloid gears geometry, strength calculation and 3D model  
Modifications and corrections like twist and negative crowning  
Graphical contact analysis (requires CB1, ZY1)  
NEW Rights: Z50 |
# Tooth Form Calculation

<table>
<thead>
<tr>
<th>Modules</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ZY1</strong></td>
<td>Enhanced 2D and 3D graphics for tooth form animation of gear wheels in mesh contact, Simultaneous presentation of subsequent manufacturing steps, Measure function in graphics; memory function for comparison A-B, Tooth form and tool in normal section, Collision check, marking of contact point, marking of collision Rights: Z05x, Z05j, Z05k</td>
</tr>
<tr>
<td><strong>ZY2</strong></td>
<td>Import of tooth form or tool geometry Import of any kind of non-involute tooth shapes or tools (e.g. from CAD or 3D-application, DXF or VDA) Rights: Z05a</td>
</tr>
<tr>
<td><strong>ZY3</strong></td>
<td>Calculation of milling cutter (hob) and pinion type cutter, Calculation of type cutter reference profile and pinion (also for the design of special tools), Rights: Z05c</td>
</tr>
<tr>
<td><strong>ZY4</strong></td>
<td>Calculation of counter gear’s tooth form by generating with actual gear tooth, Rights: Z05d</td>
</tr>
<tr>
<td><strong>ZY5</strong></td>
<td>Addition for molding Compensation of shrinking, spark gap, modification of pinion type cutter, Rights: Z05e</td>
</tr>
<tr>
<td><strong>ZY6</strong></td>
<td>Progressive Profile corrections, arc-like running in curve, Elliptical root radius, Rights: Z05f, Z05g</td>
</tr>
<tr>
<td><strong>ZY7</strong></td>
<td>Cycloid- and arc of circle tooth forms, designed Involute, Straight flank, Rights: Z05h, Z05n</td>
</tr>
<tr>
<td><strong>ZY8</strong></td>
<td>Scaling of tools Scaling the DXF tool shape or a tooth form with the normal module of gear Rights: Z05q</td>
</tr>
<tr>
<td><strong>NEW</strong></td>
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</table>

# Further Gearspecific Modules

<table>
<thead>
<tr>
<th>Modules</th>
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<tbody>
<tr>
<td><strong>ZZ1</strong></td>
<td>Load spectra, service life, transmissible torque/power Calculation of transmissible power with and without load spectra Calculation of service life with and without load spectra Calculation of safety factors with load spectra (for cylindrical-, bevel- and crossed helical gears) Consideration of the load and speed direction of each load bin NEW Rights: Z16, Z16a, Z18, Z18a</td>
</tr>
<tr>
<td><strong>ZZ2</strong></td>
<td>Hardening depth Proposal of required hardening depth based on Hertzian pressure (for cylindrical- and bevel gears), Rights: Z22</td>
</tr>
<tr>
<td><strong>ZZ3</strong></td>
<td>Backlash Calculation of acceptance-backlash and operating-backlash (for cylindrical-, crossed helical- and worm gears), Rights: Z12</td>
</tr>
</tbody>
</table>
Flank breaking calculation for bevel gears and cylindrical gears according to Dr. Annast, TU München, 2002, Rights: Z07k

Calculation of measurement grid for topology measurements, flank and root, for cylindrical-, bevel- and worm gears and for splines
Measuring machines: Klingelnberg and Gleason (requires CB1); Rights: Z05o

**Expert Modules Shafts and Bearings**

**Shafts**

<table>
<thead>
<tr>
<th>Modules</th>
<th>Description</th>
</tr>
</thead>
</table>
| WA1     | System of shafts composed of various coaxial shafts  
Calculation of the deformation in the shaft system (taking in account the bearing offset, bearing clearance, non linear stiffness calculated from the inner geometry, thermal expansion, linked shafts)  
Rights: W01a, W01b, W03b, W03c, W03d |
| WA2     | Tooth trace modification  
Calculation of longitudinal deformation  
Load distribution with and without modification  
Rights: W10 |
| WA3     | Buckling (for beams and shafts)  
Rights: W13 |
| WA4     | Critical speeds and frequencies  
Torsions-, bending-, longitudinal frequencies  
Campbell diagram  
Rights: W04, W04x |
| WA5     | Strength calculation according to Hänchen & Decker  
Shaft design regarding constant equivalent stress and maximal deformation  
Rights: W06a, W12 |
| WA6     | Strength calculation according to DIN 743, 2012 Edition  
Shaft design regarding constant equivalent stress and maximal deformation, Rights: W06b, W12 |
| WA7     | Strength calculation according to FKM guide line, 2012 Edition  
Shaft design regarding constant equivalent stress and maximal deformation  
Rights: W06c, W12 |
| WA8     | Load spectra for shafts and bearings  
Calculation for shaft limited life- and endurance strength  
Bearing calculation with load spectra  
Rights: W01s, W06s |
### Bearings

<table>
<thead>
<tr>
<th>Modules</th>
<th>Description</th>
</tr>
</thead>
</table>
| WB1     | Enhanced bearing calculation (L10m, Lnm)  
Influence of lubrication according to ISO 281-1  
Thermally permissible service speed acc. DIN 732  
Rights: W05a |
| WB2     | Reference service life calculation, with inner geometry according to ISO 16281 (L10r or Lnmr if combined with Module WB1)  
Diagram of the load distribution in the bearing  
Diagram of the load distribution over the rolling bodies  
User specified input of roller profiles  
(requires WA1) Rights: W05b, W05c |
| WB3     | Hydrodynamic bearings  
Hydrodynamic radial journal bearings: Oil or grease lubricated, according to DIN and Niemann  
Hydrodynamic axial journal bearings: Calculation of tilting-pad thrust bearings according to DIN 31654  
Rights: W07, W07a, W07b, W07c, W08 |
| WB4     | Calculation of a single bearing with inner geometry according to ISO16281  
Own input of the inner and outer ring deformation (possible without the WPK)  
User specified input of roller profiles  
Rights: W51 |

### CAD Interfaces

#### 2D Export

<table>
<thead>
<tr>
<th>Modules</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA1</td>
<td>2D DXF and IGES Export, Rights: K05a, K05e</td>
</tr>
</tbody>
</table>

#### 3D Export

<table>
<thead>
<tr>
<th>Modules</th>
<th>Description</th>
</tr>
</thead>
</table>
| CB1     | STEP and Parasolid format export in 3D through Parasolid kernel  
Display and export of cylindrical gears with modifications and of straight and helical bevel gears (tip apex in one point, without modifications), Display as skin model for the control of tooth contact and meshing; splines (shaft-hub), shafts, rack  
Rights: K05u, P01 |
| CB2     | Solid Edge-Integration: Generation of 3D gears (cylindrical gears, worms, crossed helical gears, straight bevel gears, splines (shaft-hub), shafts and rack) directly from the calculation using KiSSsoft menu in Solid-Edge, includes CC1  
Rights: K05d, K04 |
CB3 | SolidWorks - Integration: Generation of 3D gears (cylindrical gears, worms, crossed helical gears, straight bevel gears, splines (shaft-hub) shafts and rack) directly from the calculation using KISSsoft menu in SolidWorks
Rights: K05k, K04

CB4 | Inventor - Integration: Generation of 3D gears (cylindrical gears, worms, crossed helical gears, straight bevel gears, splines (shaft-hub) shafts and rack) directly from the calculation using KISSsoft menu in Inventor, includes CC1
Rights: K05m, K04

CB5 | CATIA V5 - Integration: Generation of 3D gears (cylindrical gears, worms, crossed helical gears, straight bevel gears, splines (shaft-hub)) (manufacturer: SWMS), Rights: K05o*

CB6 | Creo Parametric - Integration: Generation of 3D gears (cylindrical gears, worms, crossed helical gears, straight bevel gears, splines (shaft-hub)), includes CC1 (manufacturer: Applisoft)
Rights: K05q*, K04

CB7 | Siemens NX - Integration: Generation of 3D gears (cylindrical gears, worms, crossed helical gears, straight bevel gears, splines (shaft-hub) shafts and rack) directly from the calculation using KISSsoft menu in NX, includes CC1
Rights: K05n, K04

CB8 | Think3 - Integration: Generation of 3D gears (cylindrical gears, worms, crossed helical gears, straight bevel gears, splines (shaft-hub)) directly from the calculation (manufacturer: StudioTurci)
Rights: K05r*

CB9 | Creo Elements/Direct - Integration: Generation of 3D gears (cylindrical gears, worms, crossed helical gears, straight bevel gears, splines (shaft-hub)) directly from the calculation, Rights: K05p*

CB10 | Askon Kompas V13 – Integration: Generation of 3D gears (cylindrical gears, worms, crossed helical gears, straight bevel gears, splines (shaft-hub)) directly from the calculation, Rights: K05l

*) please refer to the conditions

**COM Interfaces**

<table>
<thead>
<tr>
<th>Modules</th>
<th>Description</th>
</tr>
</thead>
</table>
| CC1     | COM Interface basic  
Call of basic KISSsoft functionalities as i.e. create reports, CalculateRetVal and KsoftVersion  
KISSsoft messages can optionally be shown  
NEW |
| CC2     | COM Interface expert  
Most of the sizing and optimizing functions are available through the extended COM interface via CallFunc and CallFuncNParam  
Contact analysis can be fully controlled by the COM Interface  
NEW |

16.07.2014
Languages

<table>
<thead>
<tr>
<th>Modules</th>
<th>Description</th>
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<tbody>
<tr>
<td>LA1</td>
<td>German, Rights: K02</td>
</tr>
<tr>
<td>LA2</td>
<td>English, Rights: K02a</td>
</tr>
<tr>
<td>LA3</td>
<td>French, Rights: K02b</td>
</tr>
<tr>
<td>LA4</td>
<td>Italian, Rights: K02c</td>
</tr>
<tr>
<td>LA5</td>
<td>Spanish, Rights: K02d</td>
</tr>
<tr>
<td>LA6</td>
<td>Russian, Rights: K02e</td>
</tr>
<tr>
<td>LA7</td>
<td>Portuguese, Rights: K02f NEW</td>
</tr>
</tbody>
</table>

Services

Engineering

KISSsoft AG also offers engineering and consulting services. Our competence and our broad know-how, are based on all kind of different projects, which we executed for various industry sectors. We are pleased to share this know-how with you and prepare a precise offer according to your specifications.

Trainings

In our trainings, you will learn the efficient use of the software and you will understand the necessary theoretical background. Information on public seminars can be found on our homepage. For a company specific training, please contact us directly.
Conditions

Single-user version

The single-user installation of KISSsoft is licensed with a USB dongle. The calculation program can be installed on various computers, but calculations can only be executed with dongle in the USB port.

Multi-user network version

We offer network installation for any number of users, whereas the number of simultaneous users is restricted to the number of purchased access rights. For multi-user installations we charge an extra 25% on listed prices. The license is restricted to one site (physical address).

Software update contract

The software maintenance and update contract guarantees continuous long term use of KISSsoft. It offers the following benefits: Technical support on the calculation methods, software usage support, updates of software, adaptations to new standards and full compatibility with new operation systems at a rhythm of one update a year, patches, and some additional features. Copy of contract on request.
Price: 15% of software value per year, minimum of 100 EUR per year. Exact price on request.

* Third party manufacturers

* = Software developed by one of our partners. The modules marked with * may have different conditions. Details on request.