General,
Shaft-Hub Connections,
Bolts, Springs

KUM International, October 23, 2019

Markus Schärer

KISSsoft

Database maintainance

- Current bearing data to all new releases of the manufacturers TIMKEN, SKF, Schaeffler (INA, FAG) and Koyo
- Planed are to add more bearing data of the manufacturers NTN, ORS, NKE, …

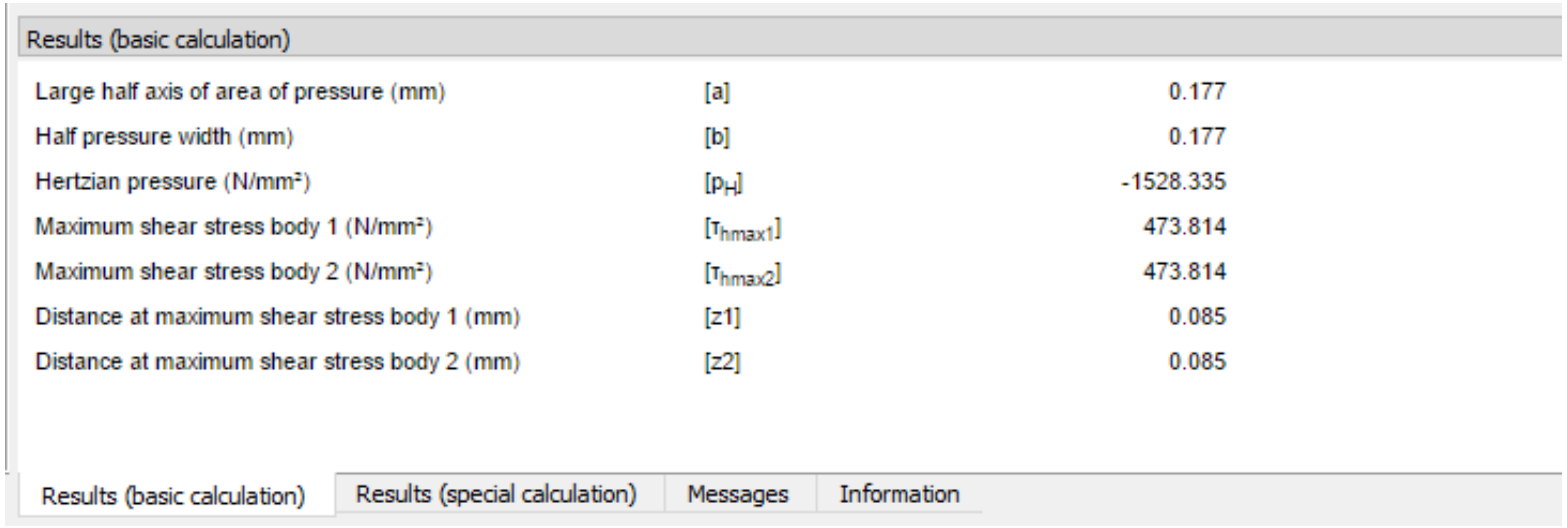
- Change geometry data if new standards come out
- Actualize oil data or add new one’s

Current changes are:

- Lubrication data from the manufacturer Klüber actualized.
- Some new oils from the manufacturer Shell (Shell Omala S2, S4, S5 for high speed gears)

Result overviews

- All result overviews are now defined in report template files (*rpt, excluded W010 and W051), now all results should have the same layout.



Results (basic calculation)

Large half axis of area of pressure (mm)	[a]	0.177
Half pressure width (mm)	[b]	0.177
Hertzian pressure (N/mm²)	[p_H]	-1528.335
Maximum shear stress body 1 (N/mm²)	[τ_{hmax1}]	473.814
Maximum shear stress body 2 (N/mm²)	[τ_{hmax2}]	473.814
Distance at maximum shear stress body 1 (mm)	[z1]	0.085
Distance at maximum shear stress body 2 (mm)	[z2]	0.085

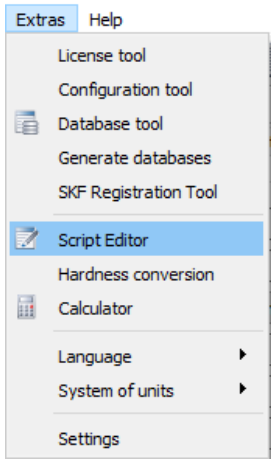
Results (basic calculation) | Results (special calculation) | Messages | Information

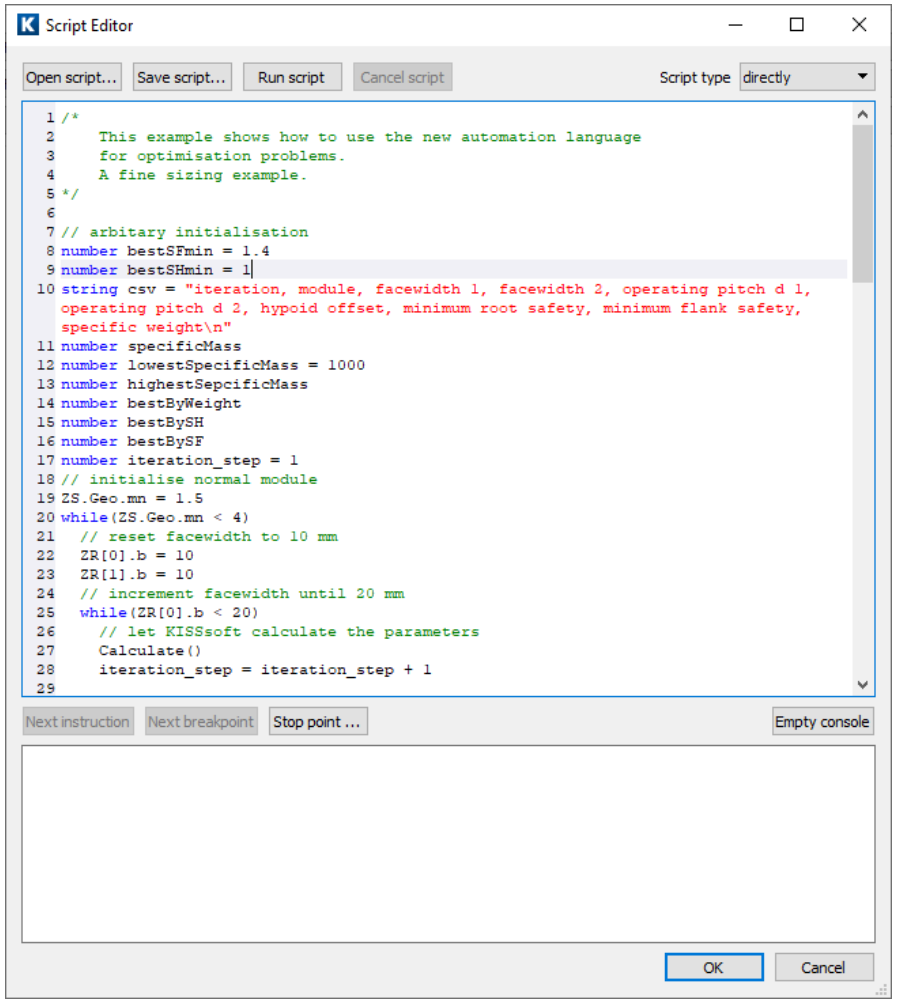
KISSsoft

General

Script Editor

- Small automation tasks
- New and easier way to define rules (pre and post events)
- Access to all module methods and variables
- Does not replace the COM

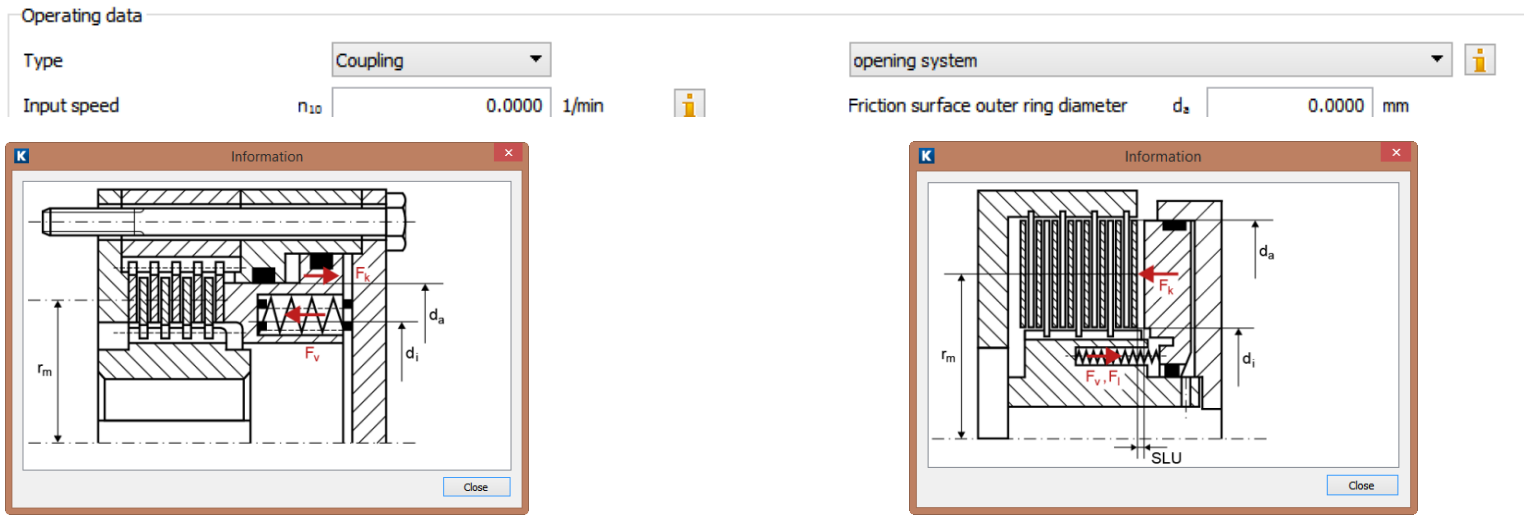




KISSsoft

Couplings

Until now was only possible to calculate a coupling as closing system and a brake as opening system. You can choose between an opening or closing system.

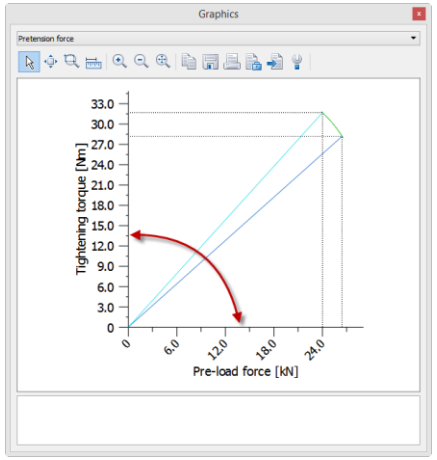


Opening system

Closing system

Bolts

- Minimum safety sliding added in the result overview – rebuilt the result overview

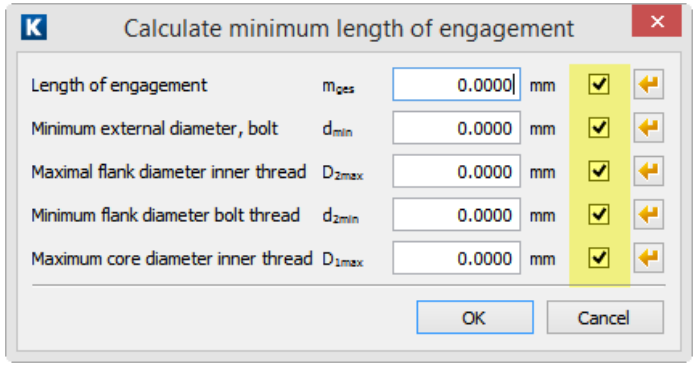


- Clearer definition for the tightening torque in the tab ‘Conditions’

Maximum tightening torque	$M_A (F_M)$	31.6874	Nm
Minimum tightening torque	$M_A (F_M/\alpha)$	28.1930	Nm

- Swapped the axis from the graphic ‘pretension force’ (VDI 2230 guideline (2015))

- Input fields for length of engagement set automatically the default values, if the flag isn’t set.



KISSsoft

Splines M02c, Z09a

DIN 5481 (straight line flank) actualized (Version 2019),
Version 2005 with the corrigendum 2009

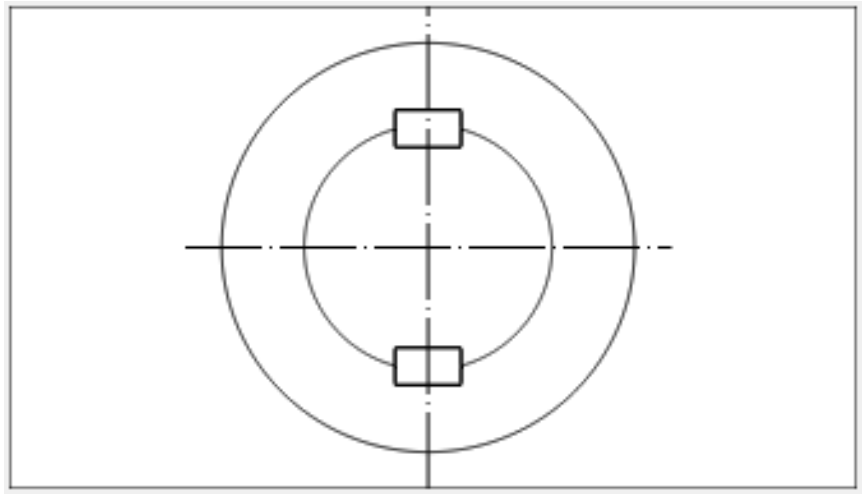
Updated to the current standard DIN 5480-2:2015

Shaft- Hub- connections (M02a-M02e, Z09a)

Support factor fs are now possible to input in the modulspecific settings.
In the DIN 6892 is a range for this factor, KISSsoft use as default the minimal value.

Feather key M02a

New flag that is possible to arrange 2 keys symmetric in the graphic, until now was only possible with a shift of 120 degrees.



Cylindrical and conical interference fit

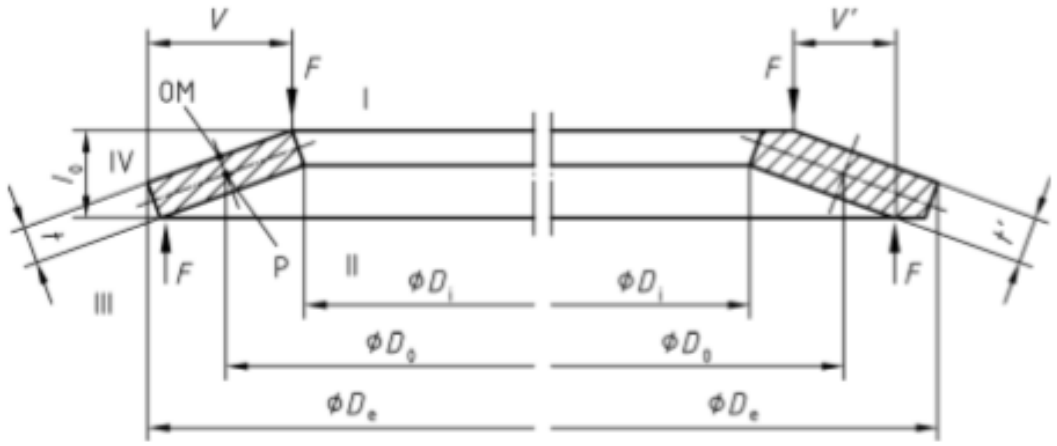
Updated to the new standard DIN 7190-1 (2017) for cylindrical interference fit and DIN 7190-2 (2017) for conical interference fit.

Important change, which have directly influence to the interference fit allowance:
-> the smooth factor changed from 0.8 to 0.4.

Safety against sliding SR >,
Safety against fracture SiRm < and
Safety against yield point SiRp <
than until 2017 release

Disk springs F040

New standards added:
DIN 2092 –> DIN EN 16984:2017 Calculation
DIN 2093 –> DIN EN 16983:2017 Quality Specifications – Dimensions
Content from the standards are the same.

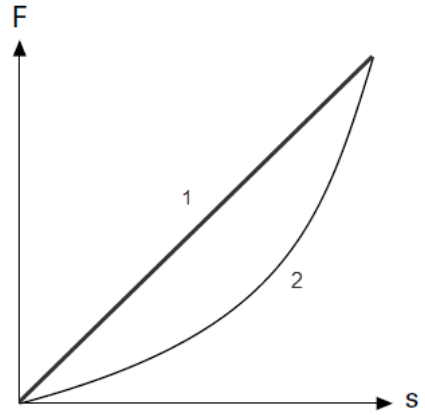


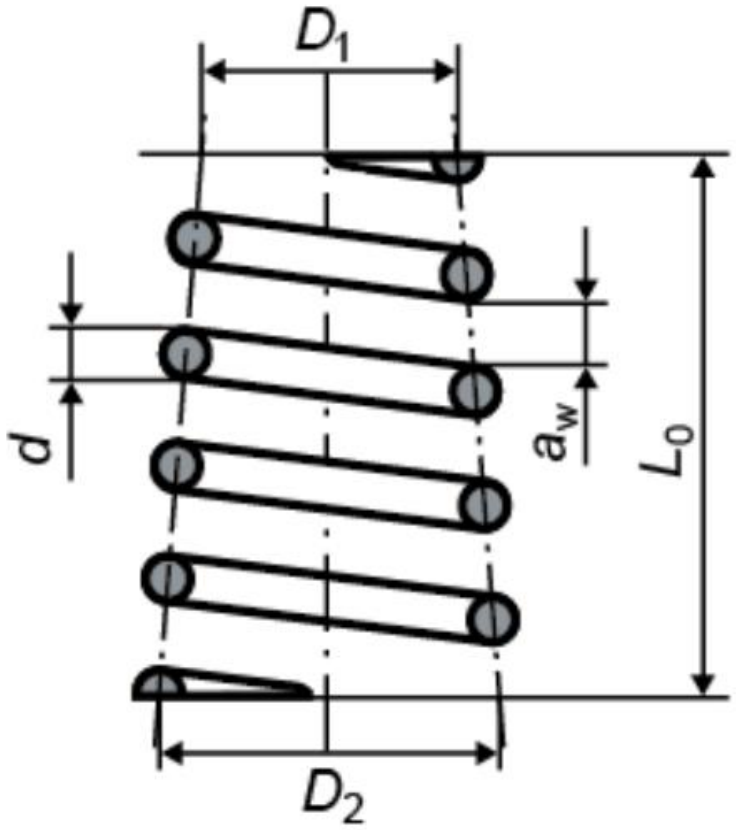
Conical Compression springs

- According literature ‘Metallfedern’ following DIN 13906-1:2013 for compression springs
- Big difference to cylindrical compression springs is the force travel diagram, the line in this graphic is progressive

(for compression springs is this line linear)

1 cylindrical compression spring
2 conical compression spring





KISSsoft

Springs

- In KISSsoft is possible to calculate conical compression springs with constant wire diameter and constant pitch
- The relaxation and the goodman diagram is calculated like the cylindrical compression spring calculation (according material data)
- Advantage: Axial space smaller than for cylindrical compression spring

Thank you for your attention!

Sharing Knowledge

KISSsoft AG, A Gleason Company
Rosengartenstrasse 4, 8608 Bubikon, Switzerland
T. +41 55 254 20 50, info@KISSsoft.AG, www.KISSsoft.AG

KISSsoft