

KISSsoft Module KS2

OFFERS ENHANCED HEATING CALCULATION FOR GEARBOXES

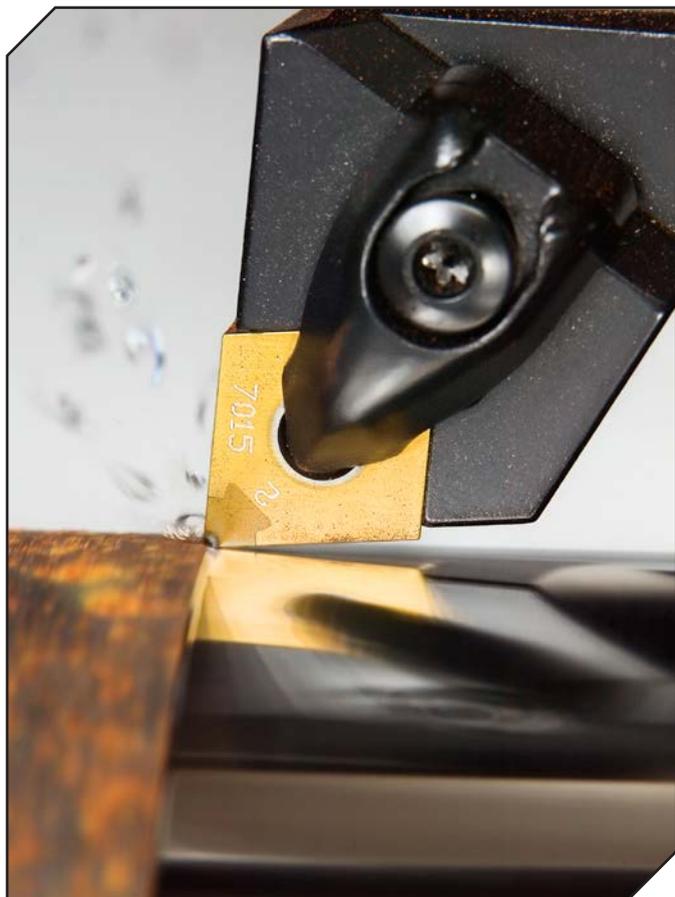
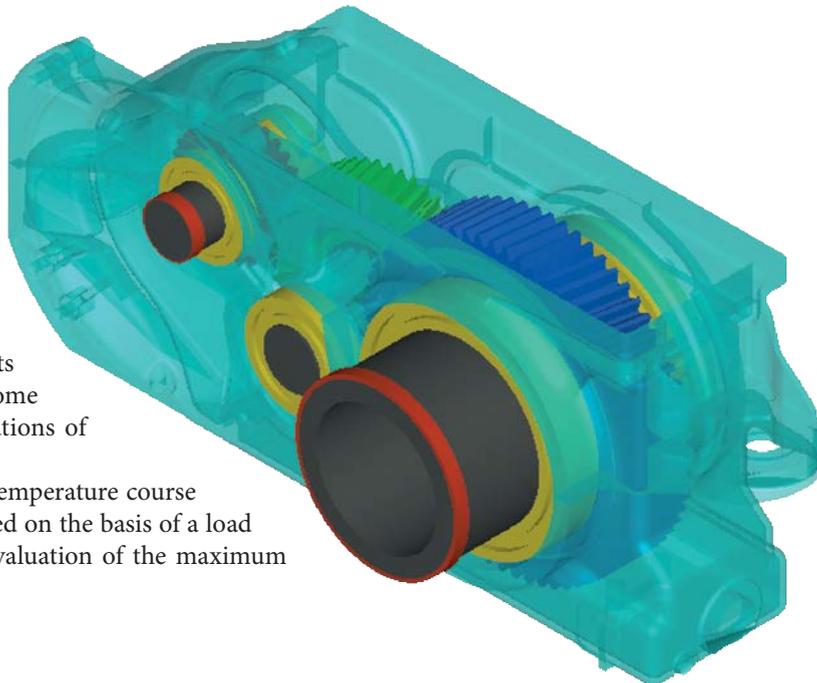
The efficiency calculation and thermal analysis according to ISO/TR 14179 (module KS2) has recently been extended with several useful functionalities: The power loss calculation has been implemented using the contact analysis of gears, which allows the user to consider the influence of micro-geometry.

The power losses as well as the dissipated heat can be adjusted to the measurement results with individual correction factors. The outcome for this is a reliable basis for thermal calculations of gearboxes with similar designs.

The possibility of the determination of the temperature course was added. The temperature course is calculated on the basis of a load spectrum or a driving cycle and allows the evaluation of the maximum temperature occurring during operation.

For more information:

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www.KISSsoft.AG



Sandvik Coromant CB7015 CBN Grade

DELIVERS HIGH QUALITY FINISHING OF TRANSMISSION COMPONENTS

Sandvik Coromant's CB7015 is a CBN grade for a broad range of applications and designed to deliver improved finish quality in the production of transmission components. The CB7015's primary function is turning case-hardened steels (58-65 HRC). Due to the Safe-Lock clamping system, the CBN grade with a wear resistant ceramic binder is also usable for dry machining. It complies with all standard shape and position tolerances.

The CBN product range from Sandvik Coromant includes inserts with standard corner radii and wiper inserts as well as an Xcel version. The wiper geometry offers a range of process optimizations including improved finishes for standard cutting data. It also provides higher finish quality with increased feeds – roughness grades below 3.2 μm can consistently be achieved. With Xcel geometries and feeds of 0.011", roughness grades of 1 μm can be achieved.

In addition, the Xcel insert, with up to eight cutting edges, enables shorter production times and reduced tool costs per component. Dry machining avoids the costs for coolant use, offers reduced capital investment and low-cost chip disposal, all of which help to further reduce machining costs.

For more information:

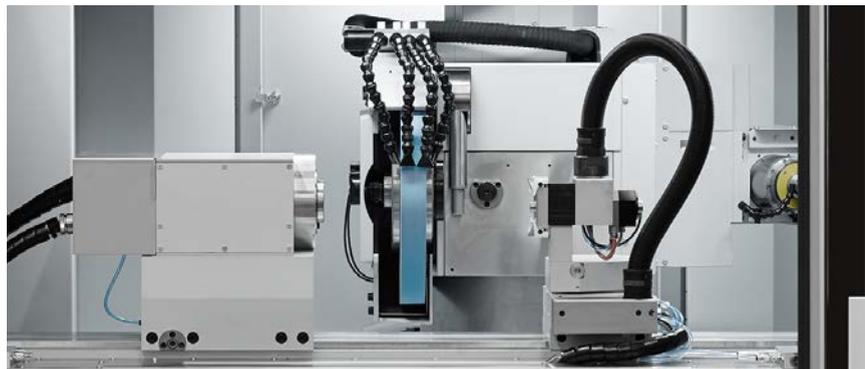
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Ajax TOCCO

SELLING 5/10 KW TOCCOTRON AC INDUCTION HEATING SYSTEMS

Ajax TOCCO Magnethermic recently delivered 5/10 kW TOCCOtron AC induction heating systems to an international on-site heat treating firm. These systems are designed for portable/on-site preheating prior to welding applications.

The customer chose these systems over larger 35 kW induction heating systems due to lower equipment costs. At 5 kW continuous output, the customer stated that the 5/10kW TOCCOtron AC systems satisfied the majority of their small to medium pre-heat prior to welding applications and was capable of heating 50 kg of steel to 200°C in 30 minutes.

The customer also cited a simple, robust design in addition to the light-weight (hand carried), 100% aircooled design as other factors in their decision.

High-frequency induction heating cables can be configured for round, flat or irregular surfaces. No tools are required for installation and use. All electrical connections are made with quick disconnects and circular military style connectors. Other



applications include bearing/sleeve shrink fitting, coatings curing, coatings removal, die heating and bulk heating applications.

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Walter

CUT GROOVING TOOL DELIVERS IMPROVED CHIP CONTROL AND TOOL LIFE

Walter recently introduced the Walter Cut G1011-P, a new grooving tool that can enhance surface quality, extend tool life, and improve process reliability.

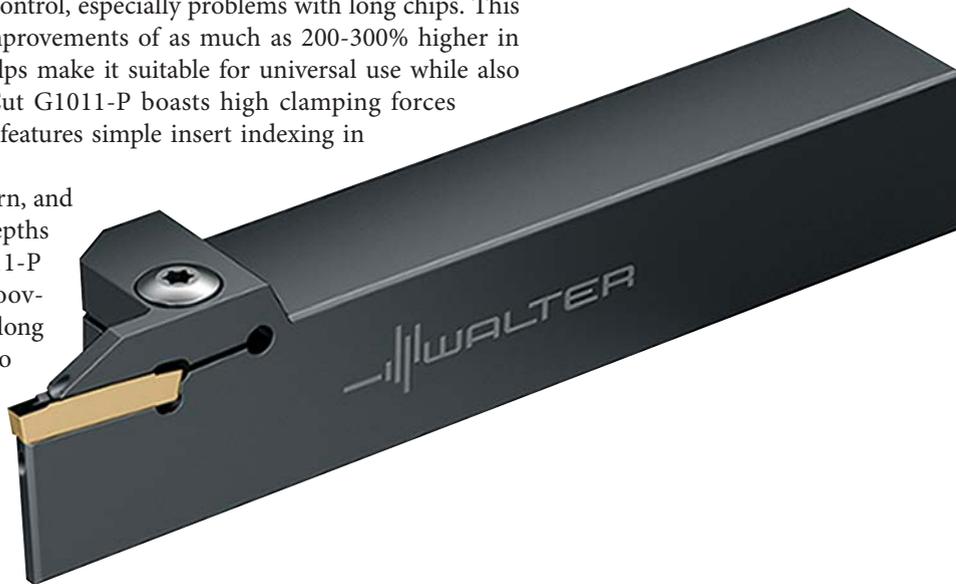
Available in shank versions of 0.750" and 1.00" (also 20 and 25 mm), this internally cooled tool features precision coolant delivered to both the flank and the chipbreaker of the insert to address problems with chip control, especially problems with long chips. This results in surface quality and tool life improvements of as much as 200-300% higher in some cases. Its short tool head length helps make it suitable for universal use while also boosting chip evacuation. The Walter Cut G1011-P boasts high clamping forces because of optimum screw position, and features simple insert indexing in normal or inverted position.

Used on turret turning centers, Swiss turn, and multi-spindle machines, with cutting depths of up to 0.827" (21 mm), the new G1011-P is designed for parting off and deep grooving on stainless steels, high-temp alloys, long chip-forming steels and other difficult to machine materials.

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**IF THE GEARS DON'T WORK
I DON'T WORK**

NOT A PRETTY PICTURE

Never settle for close when you can have precision fit.

When it comes to the mechanical components you count on, close just doesn't cut it. Common sense says a poor fit and premature wear will eventually lead to failure. And no one has time for that. At Schafer, we specialize in custom, precision-fit products designed to keep equipment moving. Simply put, our service, quality and on-time delivery are second to none. Reliability is our trademark and it has helped us grow from Schafer Gear to Schafer Industries. These days, our expertise doesn't end with gears. Now we're leading the way in driveline, axle and brake applications as well. So whether you're in the automotive, truck, marine, off-road leisure, heavy equipment or aviation industry, look no further than Schafer. For more information visit us online.

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Suhner Spiral Bevel Gears

OFFER HIGH POWER, LOW BACKLASH AND LOW NOISE

Each year, increased engine and motor power require more powerful angle gear heads. Engineers in the tool-making and industrial hand tools industries — as well as those in various other mechanical engineering fields — call for higher rotating speeds while maintaining smooth and easy movement of the tool. Smoother-running gears are also needed to combat dynamic noise. Apart from bearing and housing stiffness, the overall design and gear dimensions are essential for gear system optimization.

For these reasons, Suhner gears are cut using the Palloid and Cyclo-Palloid processes. Palloid-toothed gears are based on a technical development from straight-toothed to spiral-toothed bevel gears. Thereby the teeth are hobbled in a continuous procedure with a conical hob. The combination of this continuous process on a single thread tool leads to accurate pitch of the teeth.

Since Cyclo-Palloid gear hobbing meets and exceeds all high-quality manufacturing prerequisites, one-off, small and large lot size production can be achieved equally. Since the teeth are hobbled in a continuous process, the module (Mn) can be freely selected. Therefore, flexibility for the gear dimensioning and bevel gear calculation is provided.

While both tooth systems have similar insensitivity characteristics for bearing, a high contact ratio as well as a very accurate pitch, the cost efficiency and the high load root radius of the Palloid system should have special mention.

A further development on the proven Cyclo-Palloid toothing (soft-cut) is the process known as “HPGS hard cut.” Through this cutting process, the thermal deformation caused from heat treatment will be eliminated with boron nitride coated blades. Therefore, the surface quality on the tooth flanks will reach grinding quality, according to DIN 3965, Part 3 (Quality 4 -6).

In combination with the material, the surface treatment and the adjustment of the required lubrication, spiral bevel gears are one of the best solutions to redirect the maximum torque in other

directions. All of these can be achieved with small space and high mechanical efficiency.

Because of the sophisticated combination of the different spiral bevel gear angles, the circumferential force is divided into several components that can lead to significant axial forces. Therefore, gear design depends a lot on the bearings. The bearings have to absorb all the axial forces so the bevel gears do not move under load.

Any movement would affect the contact pattern of the teeth, which would result in edge wear that could destroy the entire gear. Just as important as the bearing is the stiffness and the geometrical accuracy of the case. All the advantages of spiral bevel gears can be had when gears are optimally positioned and perfect tooth contact is maintained.

When dimensioning the gear geometry, several criteria must be considered: required ratio, number of teeth and space/conditions. The criteria must be decided at the start of the engineering process. When the shaft angle $\neq 90^\circ$

or the axis is offset, hypoid gears are required.

The Suhner Company, which celebrated its 100th anniversary in 2014, has locations worldwide and over 650 employees. Suhner offers standardized transmission and power transfer elements for many different applications. A wide selection of elements and devices in different sizes and versions are available. Gear sets are manufactured by high quality standards, guided by a thorough and critically developed value system.

Suhner designs, manufactures and supplies in standard measurements to customer's drawings. If you need further information, Suhner's computer-assisted calculating method, technical support and/or a quotation for the drive solution you require, please contact Suhner today.

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Cimcool Cimpulse Metalworking Fluids

FORMULATED FOR USE IN HIGH-PRESSURE SYSTEMS

Milacron Fluid Technologies' brand Cimcool recently announced the launch of Cimpulse.

Cimpulse 51MP, Cimpulse 45MP and Cimpulse 33MP are new fluids in the Cimcool family. Cimpulse products are multifunctional and designed to allow metalworking shops to utilize one fluid in their entire shop. In most cases, a Cimpulse fluid can be used to consolidate all the different fluids being used within their plant.

Cimpulse fluids have been formulated for use in both high-pressure systems and standard flood applications. Cimpulse metalworking fluids utilize a hybrid blend of lubricants to deliver increased stability and reduced tool wear as well as provide long sump life.

Cimpulse 51MP for example, is a multipurpose non-chlorinated, triazine-free fluid that provides users high-pressure foam and corrosion control. It keeps machines and parts clean and provides emulsion stability, long sump life and good bio-control.

"We are confident that Cimcool's Cimpulse metalworking fluids will change the way metalworking shops think about fluids," said Jack Teat, president of Cimcool Fluid Technology. "Cimpulse is a revolutionary fluid technology unmatched in the market. We believe that a Cimpulse fluid can help all of our customers reduce their inventory and improve their metalworking operations."

For more information:

Phone: (513) 458-8100
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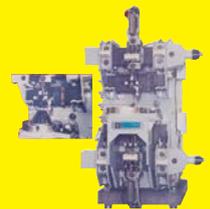
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Ball Bearing Rotary Table

Angular contact, double row, preloaded ball bearings provide the optimum combination of accuracy, stillness and low friction. Digital readout-radial runout to .000005".



5-Axis CMM

The 5-axes computer controlled special coordinate measuring machine has four air bearing precision linear motions and an air bearing rotary table. Laser measurement incorporating a unique path layout and environmental monitoring compensates for pitch and sag. Air bearing electronic probes contact the part contour. The total system accuracy is .0000050" within the envelope of travel.



Two-Axis Servo/Rate Rotary System

Vertical 16" faceplate dia. table and horizontal 9" dia. air bearing table with integral motor drive and precision encoder.



Astro Guidance Test Platform

References the north star three axis (Ultradex) index system. System accuracy 0.3 arc second band, PC based control, IEEE-488 interface.



Air Bearing Rotary Table

The ultimate precision rotary table for CMM and other high accuracy applications. Radial runout to .000001 T.I.R. Can be used vertical or horizontal. Servo or standard motor drives.



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Marposs iWave2 Wireless Gauge

HAS MEASURING RESOLUTION OF 0.0001 MM

Marposs Corp. recently announced it will introduce its new iWave2 wireless manual gauge in booth #619 at the Quality Show.

The iWave2 gauge features a durable, ergonomically designed handle with rechargeable Li-ion battery that incorporates a computer with a 1.8" TFT color screen for displaying the measurement value in the operator's hand.

Interchangeable nosepieces convert the gauge for ID, OD or length measurements. Measurement values can be transmitted via Bluetooth wireless technology to a gauge computer located within a 10 m distance. The iWave2 gauge has a measuring resolution of 0.0001 mm.

In addition to the measurement value, the gauge's color graphical display with

selectable portrait/landscape view presents a variety of information for the operator. The iWave2 gauge features a bar graph column with measurement units, good/scrap part indication, wireless strength and battery levels, confirmation of measurement transmission and an absolute/relative option setting.

The iWave2 gauge is programmable for stand-alone use via Android phone/tablet or PC. Several functions are available with the iWave2 gauge when used with Marposs Quick SPC statistical soft-

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ware, including on/off switching commanded by guided sequence; calibration history; and simultaneous zeroing of multiple devices.

The gauge incorporates soft touch buttons that are impervious to moisture. Battery duration is approximately 16 hours, while the gauge's inductive recharging system ensures continuous use 24/7.

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Heimatec U-tec Flexible Adapter

'REPRESENTS REAL IMPROVEMENT IN LATHE AND MILL/TURN TOOLING DESIGN'

Heimatec recently announced that its U-tec flexible adapter system is now available on all right-angle heads in the company's line. According to Heimatec President Preben Hansen, the company plans to include its U-tec adapter system on all angle heads going forward. Hansen said this development will provide the system's rigidity and quick-change capabilities to users doing deep hole drilling with extended tools.

U-tec is the company's patented flexible tool adapter system that allows a standard ER output live tool to accept various adapters for different applications. This allows users to changeover tools on almost any lathe or mill using a single live tool without having to commit to a quick-change system on the initial purchase. A facemill adapter, for example, can be quickly positioned into the standard holder, without the need for a completely new base being installed. This is meant to reduce inventory costs, as well as changeover time, for the busy shop.

"The U-tec system represents a real improvement in lathe and mill/turn tooling design. U-tec allows great user flexibility, while a polygonal drive system ensures extremely high power transmission stability and faster set-up with absolutely no loss in performance or accuracy, because the live tool base remains in position and only the adapter and collet get swapped out," Hansen said.

The collet nuts on the U-tec system have internal threading for rigid mounting. This new tool adapter sys-

tem enables the actual cutting tool to be brought into closer proximity to the bearing, thus further improving performance in use. This is due to the short and compact tool length design. Internal coolant up to 2000 psi (140 bar) is standard.

Every adapter in the U-tec system, complete with any necessary clamping nuts and adapters for arbor, Weldon,

CAT 40 and CAT 50, is now available in shell mill, face mill, ER extension, side lock, shrink fit, hydraulic and blank styles. U-tec angle heads are compatible with most automatic tool changers, feature 360° manual positioning and include torque arms and a stop block. Torque rated up to 150 Nm (110 ft-lb).

For more information:

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