

EMAG VLC 200 GT

PROVIDES SINGLE-CHUCK MACHINING OF AUTOMOTIVE GEARS

The EMAG Group's VLC series offers customers multifunctional machines that perform an array of hard machining processes on transmission components in quick succession. The company, which is headquartered in Salach, Germany with its U.S. location in Farmington Hills, MI specializes in turning and grinding, and has now added another important element to this portfolio, the VLC 200 GT. This machine was developed by EMAG engineers especially for the chuck machining of automotive gears. Users benefit from highly efficient turning and grinding processes in a single clamping operation.

Complete Process, Including Dressing

A simple description of the process gives you some idea of the advances in productivity made possible by the VLC 200 GT. To start with, the machine is loaded at exceptionally high speed by the integrated pick-up spindle. To minimize non-productive times, EMAG has optimized features such as the mechanism of the machining area door. Once the spindle with the part



reaches its machining position, the process starts with hard pre-turning of the shoulder and the bore hole in quick succession. Only a few micrometers of material are then left to be removed from the gear. That means the subsequent grinding process, using either aluminum oxide or CBN grinding wheels, takes significantly less time. Meanwhile, the machining quality also benefits from the combination of turning and grinding: When there is only a small amount of material remaining to be ground away after turning, the specifications for the grinding wheel can be based more precisely on the end quality required—as a result, surfaces with an average peak-to-valley height R_z of less than 1.6 micrometers can be created reliably with the VLC 200 GT. In addition, this multifunctional technology offers users a multitude of possibilities generally: internal and external grinding spindles, scroll-free turning tools, block tool holders, and EMAG's 12-station tool turret can all be installed as required.



Lower Tool Costs

There is an additional advantage in terms of tool costs, because during this process the grinding wheel wears down more slowly and therefore does not need to be dressed as often. When it does need dressing, the VLC 200 GT features a separate diamond-coated dressing roll designed specifically for this. "With its separate rotating dressing system and gap control monitoring, the machine is perfectly equipped to exploit the advantages of CBN grinding," says Peter Loetzner, President & CEO of EMAG LLC. To ensure sustained process reliability and high machining quality, the integrated measuring pin is used to check the diameter and length of the clamped component at the end of the process. Operator comfort and ease of access were important priorities for EMAG's developers, so large doors allow easy access to the machining area. The tools and clamping devices are easily accessible and can be changed quickly and conveniently.



"We are offering producers of gears a custom-fit, flexible, highly productive solution with excellent value for money. That is inevitably going to win out in the marketplace," Loetzner says.

For more information:

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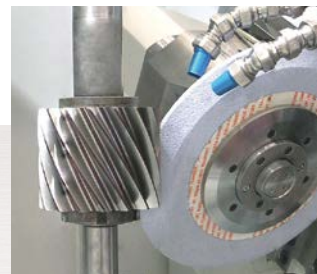
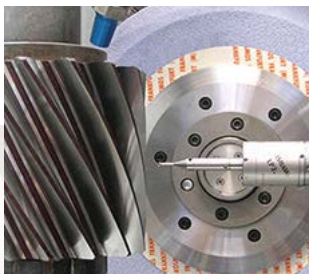
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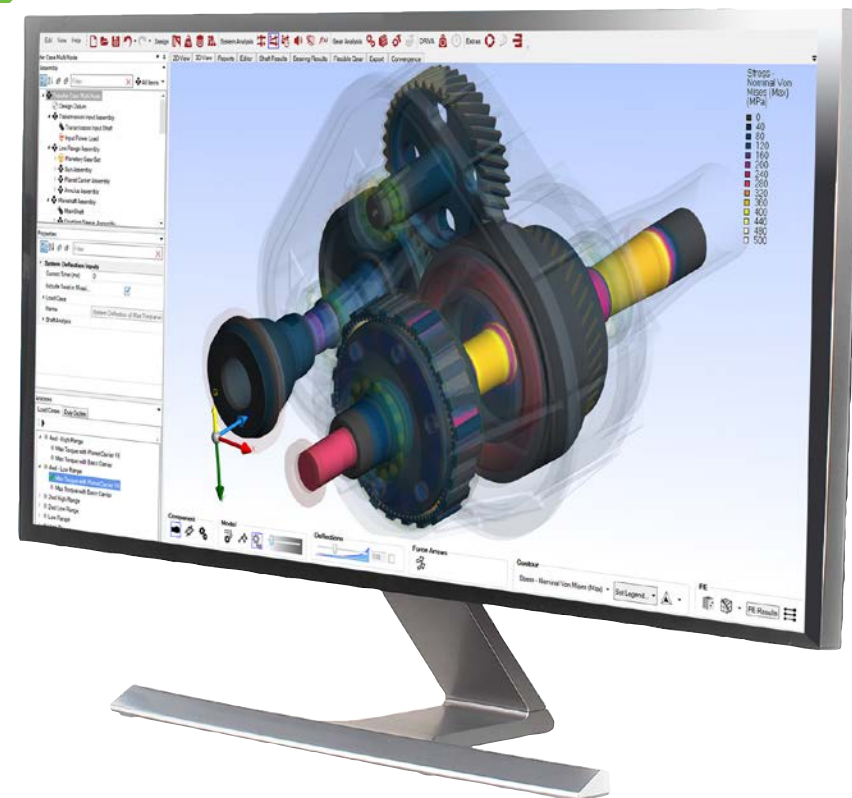
SMT, a globally integrated leader in mechanical transmission engineering services and software development, recently announced the next major software release. Available immediately for all users and evaluators, this latest release builds on previous versions and includes several innovative enhancements. Areas of new or revised functionality include the following:

Gear Whine/Harmonic Excitation Analysis

- New results available including airborne sound power for a full FE component
- Interface improvements to allow more flexibility in the results shown, including showing the response at multiple locations on one plot
- Export of operating deflection shapes that can directly be used in acoustic analysis packages
- Display of operating deflection shapes in 3D view

Shaft FE Meshing

- Create a detailed FE model using the shaft geometry defined in MASTA.
- Includes all cylindrically symmetric features such as fillets



Bearing Clearance at Mounting Points

- Automatically add mounting clearance if it occurs due to fitting and thermal effects

Flexible Spline Coupling

- New spline contact type to model each flank contact
- Simple setup process for FE nodes

CVT Model Improvements

- Define separate fixed and moving sheaves
- Include axial forces on sheaves

In addition to these, many other small functionality and user interface improvements from previously included features are also available.

For more information:

Smart Manufacturing Technology (SMT)
Phone: (248) 687-1191
www.smartmt.com



Kennametal

DEVELOPS VIBRATION-FREE BORING SYSTEM

Kennametal has developed a new boring system that boasts an effective anti-chatter mechanism, and also offers an extensive range of indexable heads and shank sizes.

Someone who knows all about it is Sam Eichelberger, product engineer for lathe systems engineering and part of the team that developed the internal dampening mechanism. "Perhaps the most important thing to know about the new bar is that it's plug-and-play," he says. "There's no need whatsoever for tuning or adjustments—you simply pull it out of the package, mount it in the turret, and get boring."

Eliminating vibration and therefore chatter greatly extends tool life, never mind its positive effect on part surface finish. And when tools last



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longer, they can be pushed harder, with feed rates, cutting speeds, and depths of cut many industry experts once thought unachievable.

Eichelberger is one of them. He lists a number of features that not only make the vibration-free boring system the most easy-to-apply bar you'll ever bore with, but also the most productive. These include a serrated, bolt-on connection at the bar's business end that securely clamps a variety of styles and sizes of indexable heads.

Better yet, the heads themselves have been put on a diet, with a shorter length and lighter weight that provides greater stability, contributing to the bar's improved performance. They're also coolant-fed, to precisely direct a stream of high-pressure coolant where it's needed most. The result is hassle-free chip control together with maximum cooling in the cutting zone.

Most important of all is the internal dampener. Said Eichelberger, "The bars are both vibration and maintenance-free. Within the bar there sits a mass that's supported by a pair of elastic supports, inside of which sits a dampening fluid. This mass vibrates at a predetermined frequency during machining, attenuating the natural frequency of the bar around it to suppress vibration."

Considering the higher cost of such a boring system, they'll also appreciate the fact that the heads are replaceable in the event of a crash, avoiding damage to the bar itself. And users of Kennametal's older boring system will find that their new heads fit perfectly with the use of an adaptor.

"The portfolio for our Imperial bars ranges from one-inch in diameter up to four inches, while the metric version starts at 25 mm and goes to 100 mm", Gable said. "There are a variety of interchangeable head styles available as well, everything from screw-on positive rake inserts for fine-finishing needs to negative rake, clamp-style geometries for heavy roughing. The bar's designed to excel in demanding applications, and that's exactly what it does."

For more information:

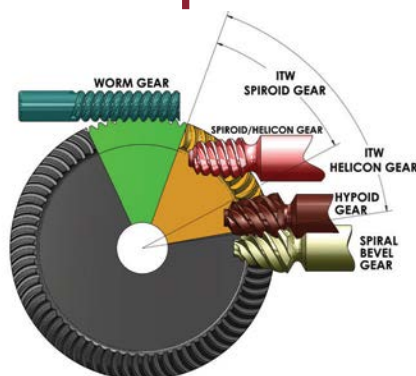
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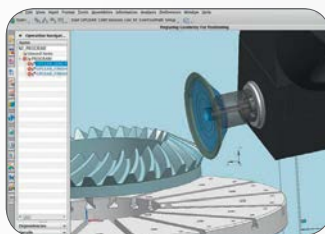


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Buehler

OFFERS DIAMET HARDNESS SOFTWARE UPGRADE FOR LEGACY HARDNESS TESTERS

Buehler, an ITW company has announced that the DiaMet hardness software upgrade is now available for legacy Wilson testers. The *DiaMet Hardness Software* is a proven platform in hardness testing. *DiaMet* can integrate and transform legacy testers to improve quality management using software's database; measurement results are automatically saved, and test reports are easily generated. With the use of a digital imaging, testing is simplified and ergonomically improved for the



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operators, since filar eyepiece measurement is no longer required. More importantly, *DiaMet Software* measurement process provides more consistent test results between multiple operators.

A *DiaMet* upgrade package includes a USB3.0 digital camera, camera cable and workstation. By upgrading to *DiaMet Software*, users will now be able improve work efficiency and reduce or eliminate manual data entries. The test program or test job may be categorized in Folders; filtering feature allows easy recalling of test program/test job; all of which, bring to ease to any internal or external auditing process. *DiaMet* software will take your organization closer toward Industry 4.0.

The *DiaMet* upgrade is available for the following testers: Wilson Tukon 1102/1202, Wilson 402 MVD/SVD, Wilson 432/452 MVD/SVD, Buehler MicroMet 5100 series and the Buehler MicroMet 6000 series. Please note that the 1102/1202 and MicroMet 6000 series may be upgradable to semi-auto or fully automated systems.

For more information:

Buehler
Phone: (847) 295-6500
www.buehler.com

KISSsoft & SKF

RELEASE NEW INTERFACE TO BETTER DEVELOP GEAR UNITS

SKF and KISSsoft have worked together to create a new interface that makes it much easier to develop gear units: when designing machines, engineers can select suitable bearings based on the very latest bearing technologies in the interface. This enables KISSsoft's customers to use these two calculation approaches: the usual ISO calculation, which includes calculation using the latest bearing data from SKF.

KISSsoft users are provided with the latest SKF bearing data via SKF's cloud services. The user is supplied the appropriate results in an engineering report generated by the KISSsoft calculation software. By creating this new interface, SKF and KISSsoft are responding to the request, from many engineers, for a single tool that includes many different types of design data, and design guidelines and restrictions, automatically updates them, and is documented in a user-friendly format from end to end. If you would like more information about the new interface, you will find it here.

Victoria van Camp, member of SKF AB's management board and head of technology development, "This partnership

between SKF and KISSsoft shows our ability to combine our different digital platforms, to enable us to produce new developments even more rapidly than before, right in the earliest phase of development. We are contributing to making agility a reality in mechanical engineering, as well as in other sectors. This is an exciting step for both our companies. We are convinced that users will welcome it, and that it will provide a strong basis for other joint optimization projects!"

Dr. Stefan Beermann, KISSsoft AG's CEO, added: "Our collaboration with SKF gives our customers a unique way of linking a desktop application with cloud-based calculation services, combining the powerful, all-embracing features of a local installation with the flexibility and constant updates of an Internet-based service."

For more information:
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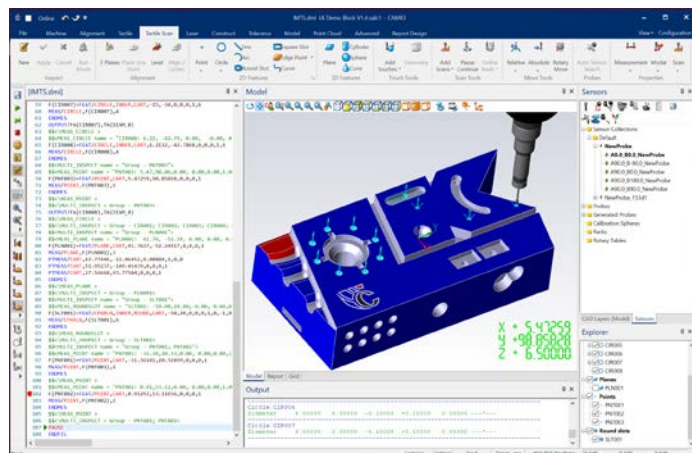
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LK Metrology

LAUNCHES LATEST VERSION OF CAMIO SOFTWARE

Metrology software has challenges in most application environments—and LK Metrology's new 8.5 version of their CAMIO CMM software has a range of new features to help meet those challenges.

The CAMIO software has become the “software of choice” for many of the world's largest manufacturers because it allows the user to focus on accelerating lead times and improving product quality. Regardless of whether inspect-



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ing stamped, molded or machined parts, CAMIO drives accurate and efficient inspection programs for geometric features along with full surface analysis with Part-to-CAD comparisons. CAMIO's interoperability across CMM platforms, sensor technology and manufacturing sites becomes its unique advantage.

Dennis Freimark, LK Metrology's North American chief software applications engineer explains, “Common practice is to provide a couple of new releases of metrology software like CAMIO every year, but in 2018 LK Metrology acquired the Nikon CAMIO CMM software business and needed to re-brand it, refresh the interface and implement a new licensing mechanism. While the re-branding took a significant amount of work and delayed the possibility for a 2nd major CAMIO release in 2018, we were still able to add many new features and enhancements for our customers, some of which are listed above.”

Freimark adds, “The shift from Nikon CAMIO to LK Metrology CAMIO has been a smooth transition for our customers, and the new 8.5 version incorporates many of the needed enhancements that provides CMM users with greater measurement flexibility for better product conformance.”

For more information:

LK Metrology
Phone: (810) 263-6100
www.lkmetrology.com

Marposs

OFFERS GRINDING GAUGE FOR IMMEDIATE MACHINE COMPENSATION

Marposs Corp. has announced the availability of its new P3dME electronic gauge amplifier for post-process monitoring of smooth and grooved parts. This device, in conjunction with Marposs measuring heads, is a flexible, practical, and reliable solution for checking parts immediately after they have been machined. The P3dME will measure the workpiece and provide immediate compensation information to the machine tool. This ensures that parts are within tolerance limits and helps to optimize cycle-times.

The P3dME is a compact gauge that can be installed on the machine tool as a standalone device or integrated into the machine front end PC using a dedicated HMI. It features a 7-inch touchscreen with an intuitive, easy-to-use operator interface. Its robust housing is designed to withstand harsh shop-floor environments and resist abrasive grit, metallic particles, and cutting fluids.

The unit is available with either two or four channels for connecting to Marposs LVDT or HBT type measuring heads. Depending upon the chosen measuring head, the P3dME has a measuring range of ± 250 to $2,000 \mu\text{m}$.

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