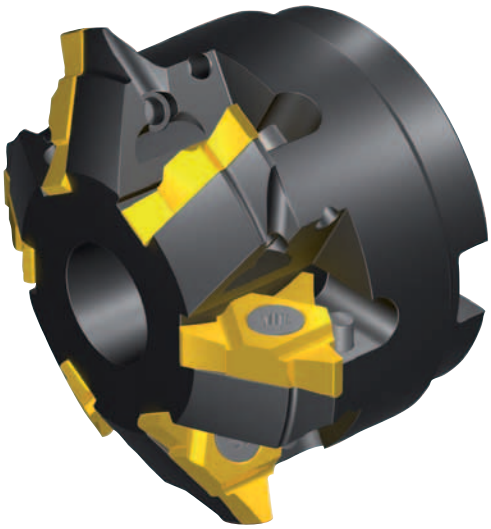
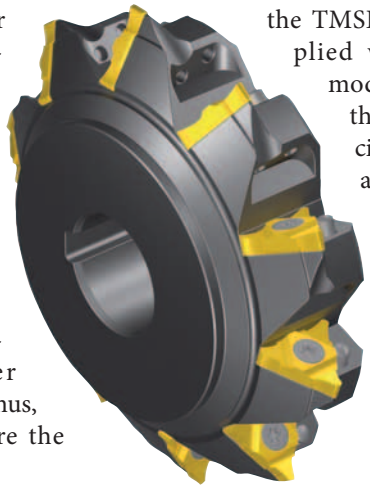
Vargus USA

OFFERS ALTERNATIVE TO CONVENTIONAL HOBBING

A well-known gear manufacturer in the United States had an application they were currently using conventional hobbing methods on. They had three main objectives which were cost, productivity, and quality of the part. What the customer required from Vargus USA was a faster more reliable tool to manufacture their splines. "The previous method was slow and cumbersome," says Mike Trimble Vardex product manager. "The new process is faster and more cost effective.



TMSD gear milling tools solved all of the customers' needs for the application. First, the price was five percent cheaper than the cost of the current hobbing methods. Secondly, the productivity of the TMSD was almost 75 percent faster than the current tooling. Third, the reliability met all class requirements for the spline. "The customer was very happy and all the requirements of the test satisfied. Subsequent orders have been placed," says Joe Magee, gear milling product manager.



The main improvements the customer received as an added bonus, but did not expect were the tool life and part finish both were considerably better than the current method. "The finish was better than a 64 Ra (roughness average), competition was 125 at best, 250 on average," Magee says.

As for the overall project summation the customer was able to move the parts from a secondary operation on a hobbing machine to the part they were now completing on their machining center; reducing handling, extra set up and utilization time on the extra operations.

The Vardex Gear Mill is suitable for medium and large batch size spline and gear manufacturing and is faster, simpler, easier to use and much more economical than existing HSS/HSS PM cutters. With its state-of-the-art design of PVD coated fine substrate carbide, the Gear Mill offers absolute price/performance advantage over existing technology.

TMSD is suited to the machining of both straight and helical teeth gears, and gear modules from 1 mm to 6 mm. All materials can be accommodated, from very soft to hardened steels of 60 HRC. Each insert profile in the TMSD portfolio is supplied with the appropriate module shape of one, two or three cutting corners (special forms can be supplied), and the ability to achieve a full profile in accordance with Class 7 DIN 3962. Importantly, because the tooling focuses on carbide inserts located in 'standard' tool bodies for end, shell and disk milling on three-axis CNC milling machines (the cutting edge is subject to relatively low loads), TMSD is affordable for companies of every size across all industry sectors.

This is in stark contrast to the usual need for ultra-expensive hobbing machines and tooling (which also needs recoating after regrinding) with their inherent lengthy set-up times. Likewise, traditional milling disks are often only suitable for rough machining on softer materials.

TMSD, therefore, alleviates the cost and potential quality problems for many companies where relatively small batches do not justify the expense of a dedicated machine – and for manufacturers, especially, the TMSD route eliminates the cost and time involved with sub-suppliers.

The benefits of Vargus TMSD tools are clear: in one case, involving a 40.5 mm diameter 42CrMoS4V gear with 52 teeth, a TMSD milling operation took just five seconds to produce each slot. TMSD also produced similar savings in one spline milling application, reducing gear rack production from 10.7 min to only 3.3 min. Similar benefits have also been achieved with plastic gears.

For more information:
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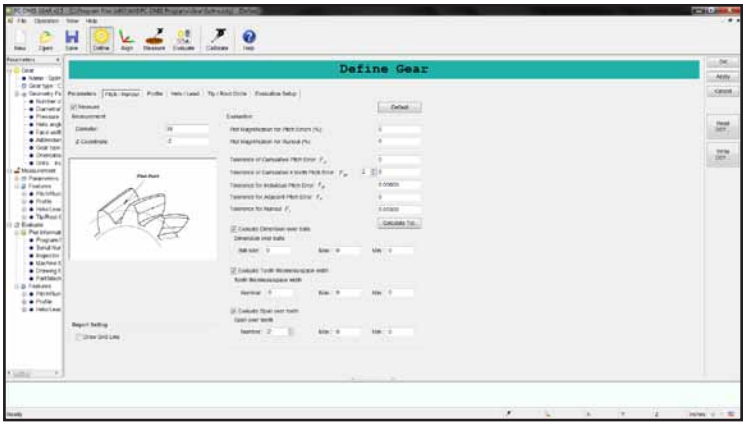
www.vardexusa.com

Hexagon Metrology

RELEASES PC-DMIS GEAR 2.5



Hexagon Metrology announces the release of *PC-DMIS Gear 2.5*, a software module designed for basic and advanced gear measurement applications. The new version simplifies measurement routines by using a parameter-driven graphic interface to speed inspections of helical gears, spur gears, bevel gears and pinions. *PC-DMIS Gear 2.5* software is compatible with standard CMMs, eliminating the need to invest in separate gear measurement equipment.

The software also runs on vision CMMs for inspection applications of small spur gears. *PC-DMIS* is an integrated metrology system used for developing inspection routines, measuring parts, managing data, evaluating and reporting results. Expert and non-expert operators can quickly build gear inspection routines by first completing a rules-driven form, then choosing the desired inspection report(s) from a set of pre-defined, standard formats. The software then automatically generates the program and inspection reports. Users can also create measurement alignment and probe qualification routines to completely automate the inspection process. *Gear* supports a wide range of international standards, including AGMA 2000-A88, DIN 3962, JIS B 1702 and ISO 1328.

Ken Woodbine, president of Hexagon Metrology's software division, said that *Gear* is a very cost-effective inspection method as compared to expensive, dedicated gear measurement equipment. The software interface has been enhanced and simplified, and even entry-level operators can run inspection routines accurately. Utilizing forms, wizards and pre-defined routines, users can calibrate probes, define datum, and measure and evaluate gears in record time.

For more information:
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Emuge

INTRODUCES GENERAL PURPOSE FORMING TAP

Emuge Corp. has announced the introduction of MultiTAP-Form, a high-performance forming tap designed to deliver a wide range of materials including carbon steel, steel alloys, stainless steel, aluminum, copper, brass, and bronze. MultiTAP-Form is uniquely designed to produce threads within both 2B and 3B classes of fit, eliminating the guesswork of calculating H-limits.

"MultiTAP-Form will significantly improve thread quality and boost output while reducing production costs," said Peter Matysiak, president of Emuge Corp. "One high-performance MultiTAP-Form will handle most common materials and applications. MultiTAP-Form also eliminates the need to stock numerous types of taps that are suitable for forming applications," added Matysiak.

The forming of threads offers many advantages over conventional thread cutting. A formed thread is one where the material has been displaced instead of cut, which provides suitable thread surface quality and increased static and dynamic strength of the thread. Additional benefits include eliminating the risk of poor threads due to axial miscutting and the ability to increase tapping speeds.

"Our MultiTAP line is the result of collective years of Emuge's extensive tapping expertise, application research and a challenge the company issued to its engineers to design a multi-purpose tap. Emuge design engineers responded by choosing a select base material along with special geometry and surface treatment that would work in as many common materials and applications as possible," stated Matysiak.

All MultiTAP-Form Taps are made with Emuge's trademark long shanks, which are DIN length, designed for extra reach. Tap sizes include a range for UNC or UNF threads, from #4-40 to ⅜-24 inch sizes, to metric sizes from M4×0.7 to M10×1.5.

For more information:
Emuge Corp.
Phone: (800) 323-3013
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www.emuge.com

Mahr Federal

INTRODUCES LATEST PORTABLE AIR GAGE

Mahr Federal has introduced the next generation of its Micro-Dimensionair line of portable air gages. The new Micro-Dimensionair II incorporates the enhanced Micro-Maxum II Digital Indicator and an interchangeable handle to provide accurate, convenient readouts at the measurement site. The digital dial on the new Micro-Dimensionair II rotates through 270 degrees for easy viewing, and the IP-5-rated gage provides the exceptional accuracy and repeatability Mahr Federal users have come to expect. Air gaging has increased in popularity in recent years as part tolerances have gotten tighter. It is fast and accurate, readily used in production environments, and the gages even help clean parts by blowing dirt away.

The Micro-Dimensionair II incorporates all the benefits of the enhanced Micro-Maxum II line including: dynamic max, min, TIR; two-point-difference measurement; multiplier factor for ratio measurements; indicator serial number identification; resolution to 20 µin; selectable, continuous output; and longer battery life. All standard features are retained, such as inch/metric measurement in digital or analog display; bi- and unilateral tolerances with presets; multiple data output formats; auto-zeroing; and normal/reverse settings for ID/OD.

The new Micro-Dimensionair II also offers the versatility of use in the single master mode for fixed range resolution, or the gage can be used in a two-master mode allowing the magnification to be set by the masters. The interchangeable handle on the new Mahr Federal Micro-Dimensionair can be configured as a pistol grip or normal end-mount for easy application of the plug to the part. For large, heavy plugs the handle can also be mounted between the tooling and the display to provide a well-balanced, ergonomic measuring system. The gage can also be bench-mounted or even mounted directly on the machine tool for added convenience.

For more information:
Mahr Federal, Inc.
Phone: (401) 784-3100
information@mahr.com
www.mahr.com

Sandvik Coromant

RELEASES COROCHUCK 930

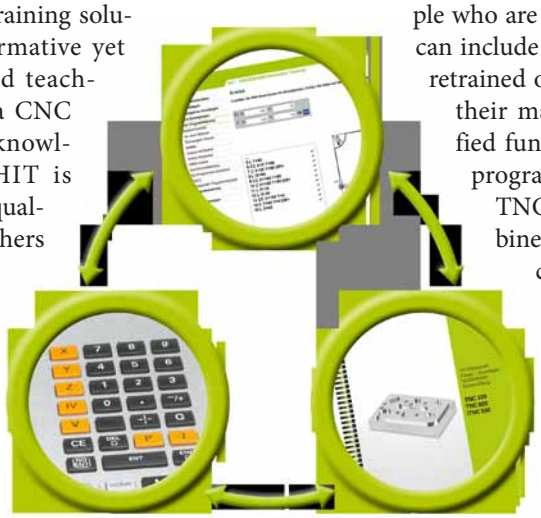
CoroChuck 930 is a high-precision hydraulic chuck from Sandvik Coromant for milling and drilling operations. The secret behind the high-precision and pull-out security is in the optimized design of the brazed membrane that allows for maximum, secure clamping with two supports on each side (fulcrums). This design ensures suitable torque transmission to improve the performance of solid carbide end mills, drills and reaming tools. This performance is repeated over multiple clamping cycles to retain high-quality component surfaces and extend tool life. Additionally, the CoroChuck 930 is designed with damping features that minimize vibrations during the machining process. Based on a hydraulic tool clamping system, the CoroChuck 930 can be quickly tightened or released with a dedicated torque wrench, thus improving efficiency through quick and easy set-ups and changes. No external equipment is required to clamp or unclamp the system. The chuck holds tolerances within microns to improve tool precision, surface finish and productivity. The precision run-out can be measured at <4 µm (157 µ inch) at 2.5 × DC. CoroChuck 930 is suitable for all types of machine tools that either have a rotating spindle or workpiece; lathes, multi-task machines, machining centers and driven tools in turning centers and vertical turning lathes. Available in pencil, slender and heavy duty design, CoroChuck 930 is balanced according to DIN 69888.

For more information:
Sandvik Coromant
Phone: (800) SANDVIK
us.coromant@sandvik.com
www.sandvik.coromant.com

Heidenhain

RELEASES CNC TRAINING TOOLS

Heidenhain Corporation has released a unique online interactive training tool for CNC instruction called *Heidenhain Interactive Training (HIT)*. This new training solution was designed to create an informative yet entertaining learning experience and teaches the most important elements of a CNC machine and imparts fundamental knowledge about CNC programming. HIT is intended for those interested in CNC qualification, as well as students and teachers who are interested in obtaining expert materials on CNC programming and machine operation. It is available as an economical download in many languages. Three modules make up this learning solution: the *HIT* software, an online Heidenhain programming station, and the *HIT* workbook, providing a relevant learning solution for qualified basic and advanced CNC training. It also proves useful for people who are unfamiliar with CNC fundamentals. This can include vocational schools, as well as those being retrained or master craftsmen who want to improve their machinist's kills. *HIT*'s software for qualified fundamental and advanced training explains programming with Heidenhain controls, called TNCs (Touch Numeric Controls). *HIT* combines theoretical training with practical exercises and therefore simplifies the beginning steps of programming. Both a free demo version and single and multiple licenses are available for download.



For more information:
Heidenhain Corporation
Phone: (847) 490-1191
info@heidenhain.com
www.heidenhain.de/elearning

Hardinge

RELEASES COLLET ADAPTATION CHUCKS

Hardinge HCAC Collet Adaptation Chucks will adapt most spindles to accept C-series pull back collets, J-series pull back collets, stationary B-series collets, style-S master collets, step chucks and closers and dead-length collets. It is possible to increase your machining capabilities by substituting a collet chuck over a jaw chuck for part diameters up to 6 inch, depending on spindle size. The benefits of using collet chucks in place of jaw chucks include: lighter weight; no hoist required to mount on spindle; faster job setup time; faster acceleration and deceleration due to less weight and smaller diameter; higher spindle speeds for reduced cycle times; optimum gripping with higher precision capability and more. Another style of Hardinge collet adapter is their quick-change FlexC Vulcanized Collet System that provides collet changeover in seconds using a manual compression wrench. The FlexC collet system has a guaranteed accuracy within .0004" (.010 mm) TIR for both collet system styles A (pull-back stationary stop) and D (pull-back thru-hole) and .0008" (.020 mm) TIR for style DL (push-to-close dead-length).The collet head has a generous gripping range to allow variation in bar stock without having to change the collet. Because there is no collet body, the collet segments will remain parallel to the stock, even when there are variations in the bar stock. This parallel clamping minimizes stock "push-back" that can create inconsistent part lengths. The spindle mount will fit on A2-5, A2-6, A2-8 and some flat back spindles (main and sub).

For more information:
Hardinge, Inc.
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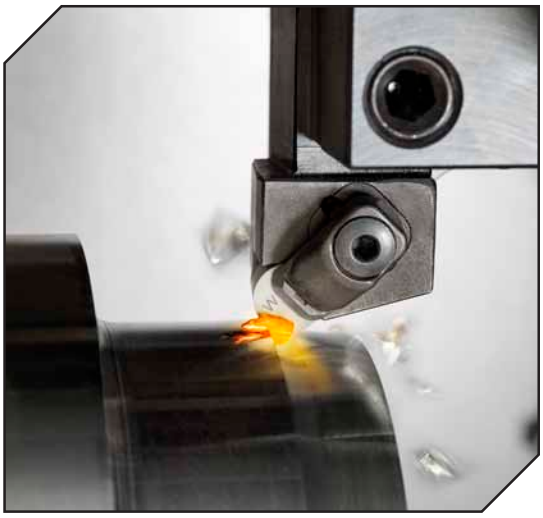
www.hardinge.com

Walter USA
INTRODUCES CERAMIC GRADES



Walter USA, LLC has introduced WIS10 and WWS20, two new ceramic grades that deliver suitable results, particularly when turning high-temp super alloys. Turning Inconel, Waspaloy, Stellite and other heat-resistant super alloys can be very tough on the carbide tools typically used to machine them. That's because of the high cutting temperatures they generate, along with greater tool stresses and increased tool wear. Ceramic inserts have very high hardness, heat resistance and wear resistance, and can stand up more effectively to the demanding conditions encountered in machining super alloys. Walter's two new complementary grades, silicon nitride-based WIS10 (Sialon ceramic) and WWS20 with silicon carbide whiskers (whisker ceramic), stand up to these applications with increased tool life and process reliability. They are designed to deliver cutting speeds five to ten times higher than carbide in many super-alloy roughing and semi-finishing operations. With its self-reinforced structure of silicon nitride ceramic and enhanced chemical stability, WIS10 offers excellent notch wear resistance and excels at turning all types of heat-resistant super alloys. The application area for WIS10 ranges from light roughing to semi-finishing operations. The new WWS20, for its part, delivers superior fracture resistance thanks to its silicon carbide "whisker fibers," which add the toughness needed to handle interrupted cuts. This makes it suitable for turning forged or cast out-of-round workpieces with uneven surfaces or heavy interruptions, and for high feed rates used when removing large amounts of material. In addition, WWS20 excels at turning hardened steel. Walter supplies WIS10 and WWS20 indexable, ceramic turning inserts in the negative basic shapes C, D, R and S, and positive basic shape inserts in RC and RP format; all are available with different cutting edge designs. For turning there are also tool-holders available with carbide shoe and clamping system. This gives the user the best possible tool-holder system for turning, capable of cutting speeds up to 1350 sfm.

For more information:
Walter USA, LLC.
Phone: (800) 945-5554
us@walter-tools.com
www.walter-tools.com

Mazak

SET TO EXHIBIT AT PRECISION MACHINING TECHNOLOGY SHOW 2013

Mazak will spotlight two small-footprint machines that are big on providing precision, productivity and profitability to shops across all industry segments in Booth 349 at the Precision Machining Technology Show (PMTS) 2013 in Columbus, Ohio (April 16-18). Throughout the show, PMTS attendees will experience real-world cutting demonstrations on the highly efficient Hyper Quadrex 150MSY Multi-Tasking Turning Center and high-value Vertical Center Universal 400-5X 5-Axis Vertical Machining Center. Mazak personnel will also be available to provide attendees with technical advice on how to improve throughput and shorten lead times using these machines.

The Hyper Quadrex 150MSY and Vertical Center Universal 400-5X both feature Mazak's new Matrix 2 CNC control that uses advanced technology to provide extremely fast processing speed, excellent cornering, suitable part surface finishes and reduced cycle times. Furthermore, the CNC control brings unbeatable accuracy and increased productivity to highly complex applications requiring multi-tasking operations; full, simultaneous five-axis machining; and the incorporation of automation.

Because it easily pairs with bar feeder systems and workpiece unloaders, as well as gantry robot loaders, the Hyper Quadrex 150MSY enables shops to achieve long periods of unmanned operation over breaks, nights and weekends. Such automation places the machine in automation Levels 1 and 2 of the 3-4-5 solution. The Vertical Center Universal 400-5X accommodates articulated robots, placing it in automation Level 4 of the 3-4-5 solution. Articulated robots are a highly advanced alternative to traditional production and enable shops to fully automate the machine's load and unload operations.

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