Samputensili

INTRODUCES SG 160 SKY GRIND

Samputensili has recently launched the SG 160 Sky Grind designed to eliminate the need for cutting oils during the grinding of gears after heat treatment and features two spindles: one for skive hobbing and one for generating grinding.

When grinding, most of the heat is transferred into the workpiece. Reducing friction, discharging the heat and evacuating the chips are the primary technological tasks for oil-based lubricants. However, the equipment dedicated to the oil treatment absorb 75 percent of the total energy consumed by a grinding machine, require a massive amount of space and significantly contribute to the costs of investment and maintenance of grinding machines.

Enrico Landi, division director of Samputensili Machine Tools, explains: "The new SG 160 Sky Grind removes 90 percent of the stock allowance with the first pass using a skive hobbing tool, which has the advantage of not heating the workpiece excessively. Subsequently, with the second finishing pass, a grinding wheel removes the remaining stock without causing problems of overheating the workpiece, therefore resulting in a completely dry process.

"Moreover, its innovative structure with two spindles actuated by linear motors and the use of more channels simultaneously ensure a chip-to-chip time of less than two seconds.

"The final result is an amazingly productive machine, even faster than traditional dual table grinding machines, characterized by a very small footprint and a lower cost of investment for auxiliary equipment. More importantly, by totally eliminating the need for cutting oils, the machine is extremely environmental friendly, both towards ecosystems and towards our most valuable resource: the health of working people."

Landi concludes: "We are sure that customers will appreciate our revolutionary concept, a proof that investing in innovation leads to the creation of cutting-edge, sustainable technological solutions."

For more information:
Star SU
Phone: (847) 649-1450
www.star-su.com

Emuge-Franken Solid Carbide End Mills

LAUNCHED IN NORTH AMERICA

Emuge Corp. recently announced the introduction of an extensive line of high-performance solid carbide end mills for applications ranging from universal milling to aerospace and high hardness machining. This new line further broadens the depth of Emuge's rotary cutting tool portfolio in the United States and Canadian metalworking manufacturing marketplace. The end mills, branded Emuge-Franken, incorporate the latest in end mill technology, geometry and coatings and are designed to outperform conventional end mill offerings.

"Emuge is well known for its high quality/performance taps and thread mills, but many people are not aware that Emuge has also been manufacturing high-performance end mills since the company was founded," said Bob Hellinger, president of Emuge Corp. "We have decided to aggressively launch a comprehensive line of high-performance mills to broaden our North American tool portfolio and meet customers' increased demands for high-performance tools in today's demanding applications."

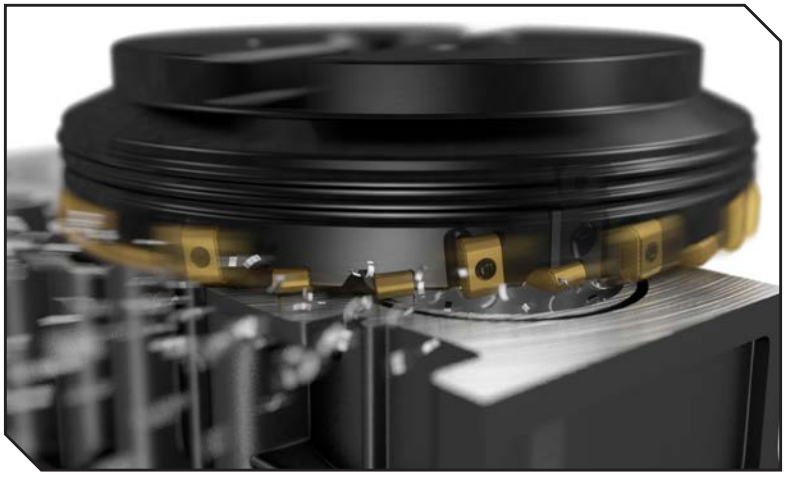
In addition to the end mills introduction, beginning in the first quarter of 2016, Emuge will be offering complete grinding/reconditioning services for end mill products as well as other cutting tools, at their West Boylston, MA facility.

Sandvik Coromant's CoroMIll 425

OFFERS EIGHT-EDGE FINISHING TOOL

Sandvik Coromant's CoroMill 425 offers an eight-edge finishing tool designed for face milling that greatly improves metal removal rate and tool life in the ISO K application area. Due to its innovative setting system, it is particularly user-friendly. This finishing tool was introduced for the face milling of cast materials. With its eight edges it is suitable for face milling components such as engine and cylinder blocks, axle housings, brake carriers and crankcases made of GCI, NCI and CGI materials. Due to its patented setting system, the tool features highly precise, reliable insert positioning that makes set-up very simple. On the CoroMill 425, the same inserts can be used as working or as wiper inserts. The wiper inserts are mounted in cassettes on the face of the tool. The insert version with a 25-degree entry angle and optimized chamfer is designed to reduce breakouts and burr formation on the workpiece. A choice of wear-resistant GC1010 PVD insert grade for dry milling and K20W grade for wet milling enables especially long tool life in CGI materials.

For more information:
Sandvik Coromant
Phone: (800) 726-3845
www.sandvik.coromant.com



The new Emuge US/Canadian solid carbide end mill launch includes the following tool lines:

Top-Cut VAR, a versatile, variable helix solid carbide inch end mill program featuring unique geometry and advanced ALCR PVD coating, for universal milling applications in virtually all materials. Top-Cut, metric end mills for universal milling applications with variable helix flutes and TiALN PVD coating ideal for both roughing and finishing operations.

Multi-Cut, carbide roughing end mills designed with a unique serrated cutting-edge chip-breaker technology for optimum chip evacuation and can achieve metal removal rates 5-10 times that of conventional end mills in a full range of materials.

TiNOX-Cut, a coolant-fed roughing end mill for demanding applications such as in exotic materials and Aerospace machining. Tools feature variable flute spacing and a serrated chip-breaker profile for aggressive material removal and a high heat-resistant multi-layer TiN/TiALN coating. Hard-Cut end mills specially developed for the machining of hardened materials up to 66 HRC.

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

EMCO Maier

EXPANDS VERTICAL TURNING LINE

EMCO Maier is expanding its line of compact, heavy-duty inverted vertical turning machines for production with the Vertical VT400, designed with integrated automation for complete machining of cast or forged chucking parts to 400 mm (15.75") dia. The VT400 utilizes the machine spindle and chuck to load and unload parts.

The VT400 accomplishes turning as well as drilling and milling operations to complete parts with swing diameters to 450 mm (17.7"), lengths to 200 mm (8"), and part weights to 40 kg (88 lb). It combines compact design and fully automated operation to offer a cost-effective production solution for automotive, off-road, power generation and other critical industries.

With its vertical, water-cooled, high-torque, high-power 36 kW (48 hp), 4,000 rpm spindle, the VT400 makes turning, drilling and threading operations easy and keeps cycle times brief, even in tough material. The direct-driven axis travel is 37.8", 15.75", ±3.5" in X, Z and optional Y. Main spindle torque is a strong 600 Nm (442 ft lb) with special hp and torque configurations available to take on very difficult applications.

Because the VT400 with its integrated pick-up system self-loads workpieces, it saves the user the costs and programming time related to external automation. This loading and unloading design allows for an extremely fast part to part times of 13 seconds with work pieces weighing up to 88 lbs.

The machine carries 12 driven VDI40 toolholders capable of 5,000 rpm and 40 Nm (29.5 ft lb) of torque. EMCO also offers different turret configurations such as VDI50, BMT65P. Special requests are always considered.

EMCO has used several standard and customized conveying solutions which will accommodate a range of queue quantities. These solutions bring the parts to and from a common loading and unloading location outside the machining area to the machine spindle for pick up.

A rigid machine structure results in substantial cutting performance in serial production and is ideally suited for fine- and hard machining. EMCO utilizes especially large cross roller guide ways in each axis guarantee excellent stability despite high loads. These ways are preloaded to eliminate backlash which allows the machine to continually hold extremely tight machining tolerances in unideal circumstances.

According to a company spokesman, "The VT400 offers the flexibility to supply its users with the ability to perform multiple machine operations with short set-up and retooling times. This reduces waiting times, resulting in a more productive machining environment. EMCO optimizes production processes and works to reduce chip-to-chip times, supporting complete part machining."

The machine maximizes rigidity and stability with a steel-welded frame construction with a sand mixture for vibration-damping in the machine bed. The machine's stable and rigid structure provides an optimum thermo- symmetrical construction of the headstock. A large saddle positioned over the guideways allows the machine to remove large amounts of material under heavy loads. The robust VT400 design has also proven to be an ideal machine for hard turning.

The new VT400 features the simple to operate and program Sinumerik 828D from Siemens with an option for Siemens ShopTurn conversational programming and the Fanuc 0i Control from Fanuc. The basic machine also includes a coolant device and a chip conveyor, which ensures rapid, effective chip removal.

For more information:
EMCO Maier
Phone: (248) 313-2700
www.emco-world.com

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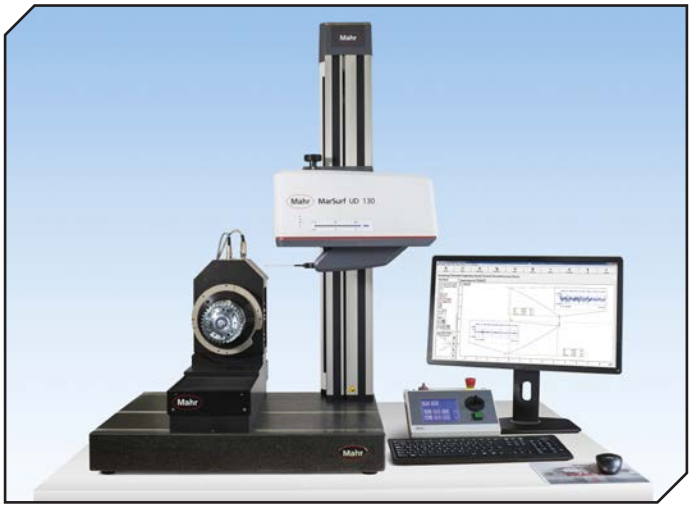
Mahr Federal System

GENERATES SINGLE PASS SURFACE AND CONTOUR MEASUREMENTS

Mahr Federal has introduced a new "entry level" surface finish and contour measuring system that can generate both surface and contour measurements in a single pass. The MarSurf UD 130 replaces the MarSurf UD 120 and offers improved features, including nanometer range measurements, high measuring and positioning speeds, a biomimetic probe design with improved rigidity and higher dynamics, and automatic probe arm recognition.

"We call the MarSurf UD 130 an entry level system because it is a more economical version of our high-end MarSurf LD 130," said Kevin Akin, product manager — form and surface metrology. "It's designed for applications in industries such as automotive or bearings that require high resolution, but which may not have the very high tolerance requirements of some optical or aerospace applications."



With measuring speeds up to 5 mm/second, the UD 130 is not quite as fast as its LD 130 cousin, but is still faster than any competitive model. Its traveling length is 130 mm, Z-axis measuring range up to 20 mm, and resolution of 2 Nm, Similarly, the UD 130 utilizes an interferometric probe system that provides better technical data than the inductive probe systems of competitive systems. Probe movement is registered by photo diodes and evaluated electronically. This innovative measuring method allows the system to achieve a very high resolution over a large range.

Probe arms are built using a bridge-truss design, which ensures maximum rigidity, reduced vibration and higher dynamics. Different probe tip geometries are available for different measuring tasks. Diamond tips with 2 µm and 5 µm radii can be used for roughness measurements, and ruby balls or carbide tips with 25 µm radii for contour measurements.

The magnetic mounting system allows probes to be changed by hand in seconds, and provides protection in the event of system collision. A ball stop assembly assures a repeatable probe mounting position, and an embedded electronic chip in the probe arm ensures reliable recognition. Plus, calibration data is saved, so probe changes do not require additional calibration.

The MarSurf UD 130 comes with Mahr's XCR 20 CNC software package for automatic measurement operation. Built on Mahr's modular MarWin platform, it provides extensive surface and contour measurement and evaluation capability, including functions such as line form evaluation, nominal/actual comparison, and the creation of auxiliary reference points. An intuitive, icon-based interface makes the software efficient and easy to use. Both the drive unit and measuring stand axes of the UD 130 can be controlled either by joystick or automated measuring programs. In combination with additional linear and rotary axes integrated with MarWin, fully automated part measurement is easily performed.

For more information:
Mahr Federal Inc.
Phone: (800) 343-2050
www.mahr.com

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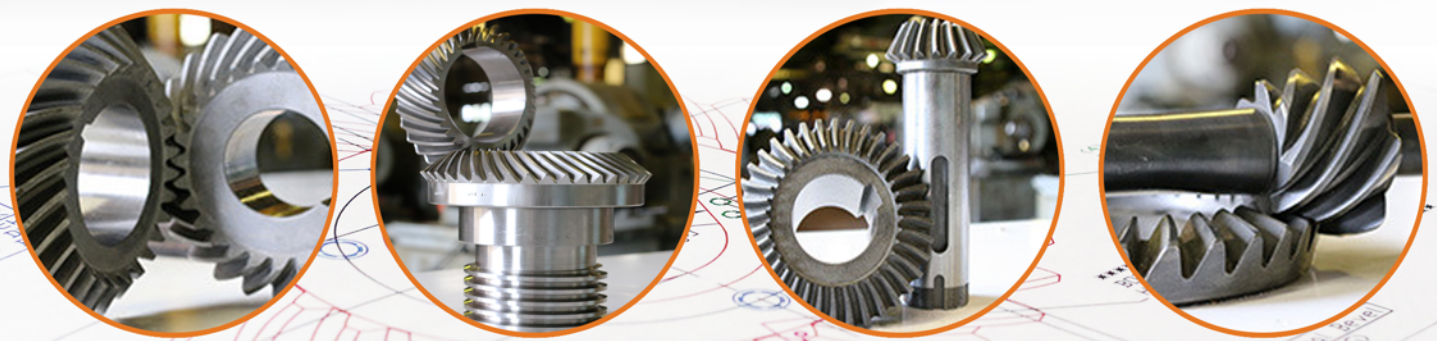

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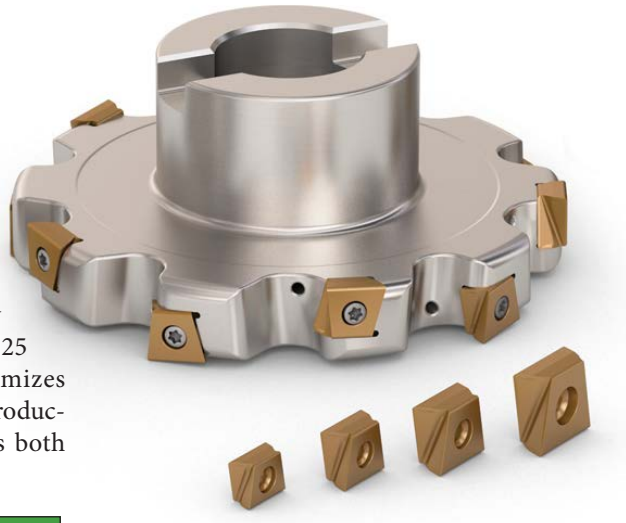
Seco Tools

INTRODUCES NEW INSERT SIZES



Seco has introduced two new insert sizes to its family of 335.25 disc milling cutters. With the additions of XNHQ inserts in 9 mm and 12 mm sizes, the cutter now offers a range of cutting widths from 0.531" to 1.26" (13 mm to 32 mm) for an even greater variety of applications.

The versatile 335.25 disc milling cutter performs slotting, back facing, helical and circular interpolation and plunging operations. Incorporating a unique cutter design and insert geometry with four cutting edges, the 335.25 reduces cutting forces and optimizes chip flow to ensure reliable and productive machining. The line features both fixed-pocket and adjustable-width versions to accommodate all production environments.

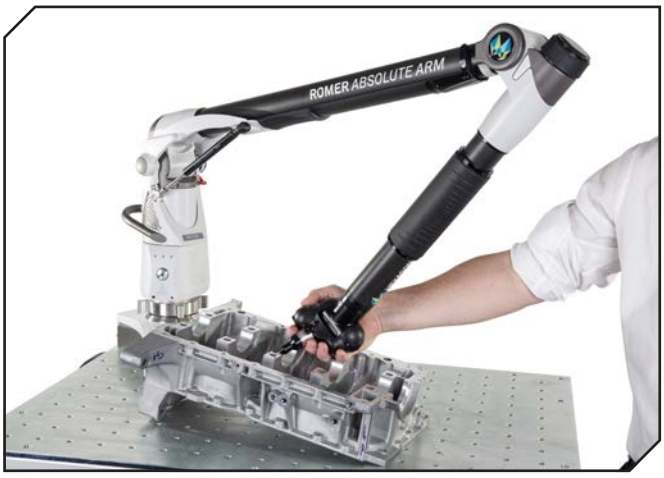
Available in diameters ranging from 4.00" to 12.00" (80 mm to 315 mm), the 335.25 line includes 0.75" and 1.00" (15 mm, 20 mm and 25 mm) cutting widths for the fixed-pocket version and from 0.531" to 1.26" (13 mm to 32 mm) cutting widths for the adjustable-pocket version. Inserts are offered in four sizes with corner radii from 0.016" to 0.236" (0.4 mm to 6.0 mm). Additionally, the range of insert grades available allows the 335.25 to be applied to all material types and each insert reduces costs by offering four cutting edges, two left hand and two right hand.

The adjustable disc milling cutter incorporates replaceable cassettes, making it easy to quickly adjust cutting width with precision. The cassettes feature a coating for extended durability, and two sizes of cassettes provide an optimized chip space and number of teeth to achieve a productive and reliable machining operation.

For more information:
Seco Tools, Inc.
Phone: (248) 528-5200
www.secotools.com

Hexagon Manufacturing Intelligence

OFFERS LATEST ROMER ABSOLUTE ARM



Hexagon Manufacturing Intelligence announced its new, top-of-the-line addition to the Romer Absolute Arm portable coordinate measuring machine (PCMM) product line. The most accurate Romer Absolute Arm to date, the 77 series is designed to provide absolute accuracy for high-end 3D measurement applications. The advanced PCMM achieves nearly a 20 percent improvement in scanning accuracy and a 15 percent improvement in touch-probe measurement accuracy over the popular 75 Series. The new Romer Absolute Arm is available in five sizes from 2.5 m to 4.5 m measuring volumes.

The 77 Series combines its high precision measurement advances with the proven technology of the Romer Absolute Arm, while retaining the arm's user-friendly nature. The Romer Absolute Arm can be switched on and used immediately without warm-up or referencing. Probe changes can also be made without recalibration to maximize flexibility on the job. Acoustic and haptic operator feedback facilitate usage in harsh shop-floor environments. The standard, versatile 3000 N magnetic base offers mounting options for all kinds of applications and part sizes. The Romer Absolute Arm 77 Series is now available to order worldwide via local Hexagon Manufacturing Intelligence commercial operations and agents with shipments starting in March 2016.

"The 77 Series takes the accuracy performance of the Romer Absolute Arm to a new level for dimensional control applications found in safety-critical industries as aerospace, defense, medical, and more," said Zvonimir Kotnik, business unit manager for portable products, Hexagon Manufacturing Intelligence. "Users will gain speed and precision with confidence utilizing this new PCMM line developed with Hexagon Manufacturing Intelligence's signature sensing, thinking, act-

ing approach to product design. Alongside the 73 and 75 Series arms, the 77 Series gives us a three-level product range, so it is easier than ever for our customers to choose the right Romer Absolute Arm for their specific application requirements."

Like the 73 and 75 Series of Romer Absolute Arm, 77 Series arms are compatible with all Hexagon laser scanners, including the RS3 integrated scanner and the HP-L-20.8 and HP-L-8.9 external units. All Romer Absolute Arms are available in 6- and 7-axis configurations. The 6-axis models are ideal for touch-probe measurement, while the 7-axis design is well suited for high-speed laser scanning.

For more information:
Hexagon Manufacturing Intelligence
Phone: (401) 866-2000
www.hexagonMI.com

Rosler Surf Finisher

UTILIZES FULLY AUTOMATED PROCESSES

Rosler has unveiled its newest surface finishing technology with its new Surf Finisher machine, an automated surface finishing process which is ideal for deburring, surface grinding, smoothing and polishing of delicate, high-value components with complex geometries. The Surf Finisher offers several benefits, including fully automatic processing, short cycle times, high process stability, repeatability and finishing of precisely targeted surface areas.

The Surf Finisher was born out of a growing demand to improve the cost efficiency, stability and repeatability of surface finishing processes for highly valuable and complex components. Surf finishing allows fully automatic dry or wet processing of these components, which up until this point, could only be finished with costly manual or mechanical systems.

Surf finishing is the ideal technology for single component treatment in the aerospace, automotive and medical industries, or any other industry where precise deburring, surface grinding, smoothing and polishing are essential.

For more information:
Rosler Metal Finishing USA, LLC
Phone: (269) 441-3000
www.rosler.us

Absolute Machine

RELEASES TONGTAI CT-350 VMC

The new CT-350 five-axis vertical machining center from Tongtai features state-of-the-art performance in a small footprint. The CT-350 boasts high-end machine construction and performance at an affordable price. The structure of the CT-350 is a "C" frame-type machine and was designed around high level mold-type machining centers to ensure rigidity during cutting. The column of the CT-350 has a wide span making it torsion-resistant while cutting a 5-axis part. Rigidity is enhanced by using 45mm roller type guide ways and pre-tensioned, large-diameter ballscrews.

The CT-350's table size is 13.78" diameter and can handle a maximum load of 440 lbs. The integrated rotary table uses the roller gear cam in both the tilt and rotation axes. The roller gear cam design provides zero backlash, high rigidity, and fast rotation speeds. The stroke on this machine is 15.75" in X, 20.08", in Y and 20.08" in Z. The A-axis stroke is +30 degrees through -120 degrees, and the C-axis stroke is 360 degrees with rotation speeds of 40 rpm and 33 rpm, respectively. The CT-350 is truly high performance with rapid feed rates of 1,418"/minute in X and Y, and 1,182"/minute in Z. A 20HP direct-drive 15,000-rpm Big Plus 40 taper spindle with air/oil mist lubrication is standard in the CT-350, however an optional 20,000-rpm integral spindle is also available. For enhanced productivity, the standard 24-position arm type tool changer is equipped with a roller gear cam mechanism to reduce tool change time to only 2 seconds. Larger 30- and 40-tool ATCs are optional.

The CT350 is equipped with a FANUC OiM-F CNC control to perform 4+1-axis cutting. However, if 5-axis simultaneous cutting is necessary, a FANUC 31iM-B5, Siemens 840D or Heidenhain iTNC-640 can be installed. Tongtai has several different models of 5-axis machining centers. The HTT-1250 is a large horizontal machine for aerospace applications with 50" tilt/rotary table. The GT-800 and GT-630 are gantry-type high-speed, high feed rate machines with 31.5" and 25" tilt/rotary tables, respectively. The MDV-551-5AX is a small, double-column-type machine with high-speed rotation and a 20" tilt/rotary table. The new CT-350 is Tongtai's smaller 5-axis machining center with a small footprint for shops that need a 5-axis machine, but do not have the floor space for a larger machine tool.

For more information:
Absolute Machine Tools, Inc.
Phone: (800) 852-7825
www.absolutemachine.com

ITAMCO

CONNECTS FORKLIFTS TO INDUSTRIAL INTERNET OF THINGS

Forklifts, the workhorses of the plant floor, are more valuable than ever at ITAMCO. The company has connected their forklifts to the Industrial Internet of Things (IIoT) — the integration of machinery and equipment with networked sensors and software.

ITAMCO is a manufacturer of precision-machined components, specializing in gears — from mining gearing to production runs of CBN-ground transmission gears. In 2012, ITAMCO implemented an MTConnect-enabled machine-monitoring program. After key pieces of machinery were connected to MTConnect and to their Enterprise Resource Planning (ERP) system, ITAMCO developed a communication system for their forklifts.

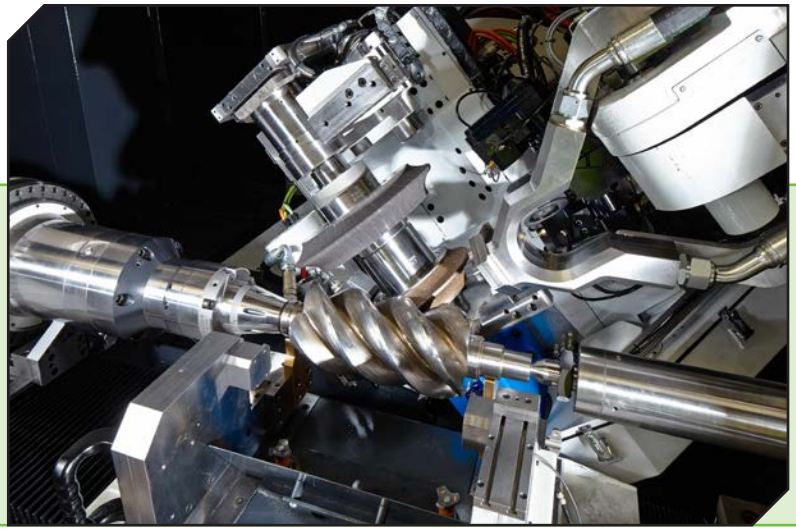
Now, as soon as a machine operator scans the barcode on a pallet, signifying the completion of the product cycle at his machine, a forklift operator and forklift are on their way to the machine. Each forklift is linked to ITAMCO's ERP system through its GPS and an application on a smart tablet mounted in the forklift. Forklift operators are notified via their smart devices — employees use iPods, iPads and smartphones — when they're needed. The communication system is so efficient it will summon the closest forklift to the machine. The forklift operator will also know how many pallets need to be moved and where they should be taken. If the product is being moved to another workstation, the workers in that area will be notified that the product is on its way.

"We developed the application because both of our facilities are rather large and forklift operators where always looking for forklifts to move their material but could never find one. Also, material would sit for hours at a machine, delaying the next operation. This application solved the problem by notifying a material handler as soon as the materials were ready to go to the next work area," said Joel Neidig, an engineer and lead technology developer at ITAMCO. The system has been well received by the ITAMCO employees. "It has definitely helped me schedule the movement of materials from one work center to another," said Arthur Doody, material handler at ITAMCO.

For more information:
ITAMCO
Phone: (574) 936-2112 (ext 1118)
www.itamco.com

PTG

OFFERS ULTRA-PRECISION MILLING AND GRINDING AT GRINDTEC 2016



PTG Deutschland GmbH, the German division of U.K.-based Precision Technologies Group, has chosen GrindTec 2016 – the International Trade Fair for Grinding Technology – to showcase its parent company's ultra-precise milling and grinding machines.

Visitors to Stand No. 2082 will be able to discover the full capabilities of PTG technologies such as the Zenith 400 helical profile grinder, the EX series rotor milling machines and the GTG2 gear-grinding center. All machines are built in the U.K. by Precision Technologies Group company, Holroyd Precision Limited.

"GrindTec 2016 is the perfect platform from which to present our ultra-precise milling and grinding machines to the widest possible audience," comments Johann Haugg, managing director of PTG Deutschland GmbH. "In addition to showing the immense capabilities of our technologies," he continues, "we will also be displaying a number of ultra-precise helical components."

The Zenith 400 represents the very pinnacle of PTG's helical profile grinding technologies and is the first machine of its kind to offer three grinding wheel options: aluminium oxide, ultra hard plated CBN and vitrified, dressable CBN. The Zenith 400 combines a 420 mm diameter grinding capability, with a maximum component weight of 700 kg. In addition to being a high precision, helical profile grinding machine, the Zenith 400 also offers high stock removal rates and aggressive semi finishing, with production rates and accuracies tailored to each customer's needs.

Holroyd EX series rotor milling machines have earned worldwide acclaim for their high speed, accuracy and unbeatable build quality. The standard range of EX series models can cut rotor or worm helix profiles in blanks up to 850 mm diameter. Where 850 mm is too small, Holroyd can build a 10EX machine that can perform the same functions on blanks exceeding one metre diameter. The flexibility of EX series milling machines means that they are equally efficient at producing complex components with helical screw profiles and gear parts such as worm shafts.

The GTG2 helical gear grinder sets new standards in the production of ultra-precise gears in diameters of up to 350 mm. Effectively a self-contained production cell within a single machine, the GTG2 offers: fast set-up to optimize production and minimize operating costs, fully automatic programmable cycles, a fully automatic grinding wheel balancing system, and the high power required for deep grinding operations.

For more information:
Precision Technologies Group (PTG)
Phone: +44(0) 1706-526-590
www.holroyd.com