

NUM's Graphical and Conversational Software Compatible with Gear Manufacturing

NUM's control systems will be displayed at IMTS and are suitable for use in gear manufacturing. The embedded machining cycles for gear hobbing, shaping or grinding and automatic gear/tool alignment are governed by a graphical and conversational human/machine interface (HMI).

According to the company's press release, the PC- or CNC-based HMI allows operators to program the machine without knowledge of ISO code. Operators are guided by pictorial information, and entry screens provide a graphical approach that depicts the hob or grinding wheel, the gear and associated setup data. Users fill in the data in fields, and the program automatically generates and stores the information. It is also possible to combine conversational/graphical programming with ISO programming or use one or the other individually.

Two system packages are available. The simple electronic gearbox package includes a CNC program that synchronizes cutter rotation and axial tool motion (Z-axis) with the rotation of the workpiece (C-axis). This configuration is designed for simple machines with three axes (X, Z and C) and a spindle. A high-speed control links from tool or axial input to the drive worktable.

With the full electronic gearbox, the CNC adds tangential tool movement to the synchronization of the Z and C axes. This configuration is designed for applications with up to six axes (X, Y, Z, A, C and W) and a spindle and allows for manufacturing of bevel and helical gears with straight and conical cutting tools. A high-speed control links from tool, axial or tangential input to the drive worktable.

Additional features of all packages include operator-prompted teach routines to find the first gear; a high-speed interface to tooth edge sensor for storing gear images; automatic hob shift management; helical, spur or worm gears; hobbing cluster gears via a number of sequential machining cycles; vertical or horizontal machine configuration; tooth modifications (crown or taper); tooth alignment to another gear on the same shaft; radial hobbing cycle (standard or single index); radial axial hobbing cycle (up to four cuts); tangential or diagonal hobbing cycle; integrated context-sensitive help file; manual or automatic part loading and clamping; and tailstock and coolant.

The gear alignment option provides cutting tool and gear re-synchronization via a non-contact sensor, allowing for automatic tool-workpiece timing pickup when re-introducing a pre-cut or hardened gear into the machine.

For more information:

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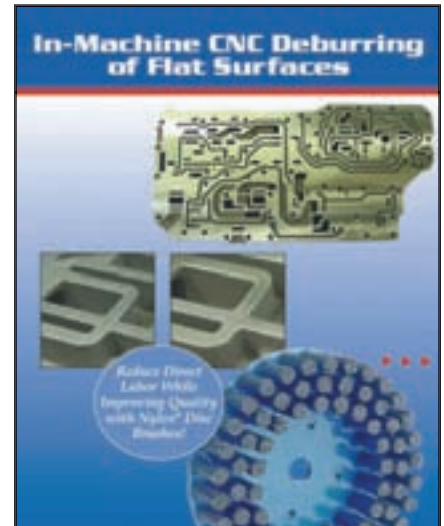
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Weiler's New Brochure Details In-Machine CNC Deburring on Flat Surfaces



Weiler Corp.'s newest brochure details its in-machine CNC deburring of flat surfaces and highlights the company's Nylox disc brushes, which allow users to deburr flat parts in a CNC machine.

According to the company's press release, the brushes are adaptable to automated equipment and suitable for deburring complicated parts on which burrs lie in a single plane. Brushes can remove burrs and finish surfaces without altering part dimensions. In addition, the brushes can deburr and finish in one setup.

The brushes' filaments operate as a collection of flexible files which remove burrs and sharp edges as the rotating disc is fed across part features, such as milled faces.

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Beaumont Machine Introduces Two-Step Diffuser Process

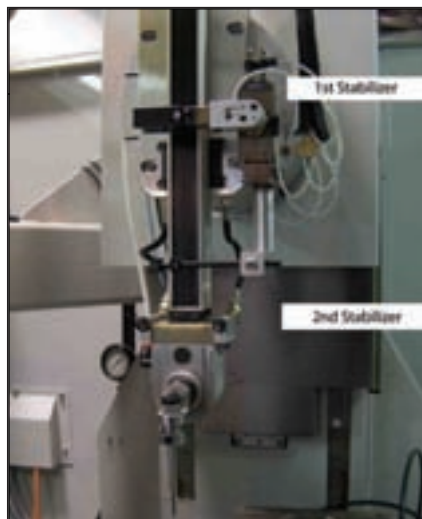


Beaumont Machine plans to exhibit its two-step diffuser process at this year's IMTS.

Diffuser shapes have become a challenge for aircraft engine OEMs and their suppliers. In most production environments, diffuser shapes are generated on an EDM sinker after a "fast hole" EDM drill creates a through or meter hole. This process requires two separate machines

with two distinct EDM processes. According to Beaumont's press release, this multi-machine process often creates several manufacturing bottlenecks and quality issues, including diffuser shape to meter-hole alignment, part reloading or fixture/part shuttling, multiple operator interventions and multiple QC inspection checks.

Beaumont's diffuser process improves this process by generating both features, meter hole and diffuser, on the same machine, according to the company. First, the meter hole is drilled. Then, the dressed diffuser shape is locked to the required angular location, and the shape is sunk over the meter hole.



For more information:
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alpha Introduces New Advanced Integrated Sensor Technology

alpha gear drives Inc. developed a method of integrating torque and force sensors into the housings of a range of motion control solutions from precision gear reducers to TPM-integrated gear and motor products.

Sensor technology allows for accurate torque measurement, axial loading and radial loading. Real-time measurement of the performance criteria allows for more accurate process control by eliminating the method of using motor current and a measured scaling factor to determine torque output. According to the company's press release, the direct method also eliminates friction or splash losses otherwise associated with gearing.

Measurement of loading on an axis can help determine changes to the process being performed. A change in material thickness results in less or more force in a roll-feed application. Changes in material density require a change in torque in bending or forming applications.

Advanced sensor technology in prototype machines helps designers eliminate unknowns from the system by providing real-time feedback. Sensor technology

can also be used to close the torque loop of a control system at the output stage. Machine life can be measured by determining the loads and forces at the drive mechanism.

For more information:
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Internet: www.alphagear.com

NEED TO CHECK GEARS?

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Looking for an easy, cost-effective way to check gears? Marposs has the solution – the M62 bench gauge system. It's accurate, flexible and right at home on the shop floor.

No more dedicated gauges

The modular M62 system is quickly re-toolable using ordinary hand tools. You'll save time and the cost of dedicated gauges.

A single-source for all of your gear inspection needs

No one has a more complete line of gear checking equipment than Marposs, so every component is guaranteed compatible. Forget mixing and matching.

If you are looking for easier, more accurate gear checking plus optional noise detection, take a look at the Marposs M62 bench gauge system. It's geared just for you.



M62 Double Flank Gear Roller
 Manual loading of gear wheels and gear shafts

Measures:

- Radial composite deviation
- Radial runout
- Tooth-to-tooth radial composite deviation
- Tangential composite deviation
- Nicks
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- Optional noise detection

All functional checks can be displayed on the rugged E9066 industrial PC system which offers a linear graphic display with full SPC functions.

Gear Masters/Gauges

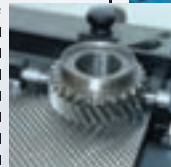
- Go-no go gauges
- Thread gauges
- Spline gauges
- Plain masters and master gears



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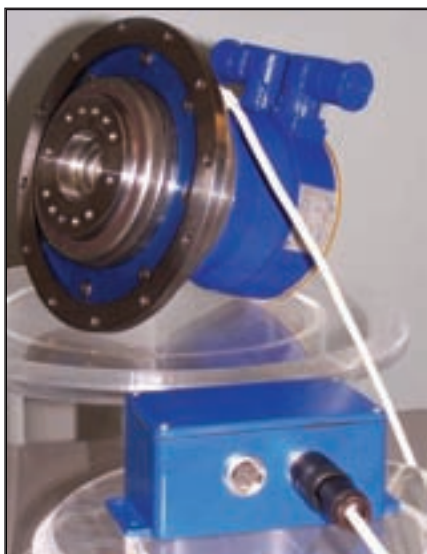


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Team Technik Introduces Modular Gearbox Test Rig

The new modular gearbox test rig from Team Technik is divided into three parts—a standardized input drive module, an output drive module and a product-

specific central body that takes over the matching of the test bench to different transmission types and automation levels.

According to the company's press release, instrumentation, control technology and test bench software were also

standardized or modularly programmed, so the new test benches are more flexible with respect to model variations and automation levels.

The company says production systems can be upgraded within weeks to match a new transmission model or provide a new level of automation for increasing production quantities. Due to an adapter change that can be put into effect in minutes as well as an automatic adjustment of the shaft separation, a single test bench can be used to test 10 different transmission versions. New automatic transmission gearboxes are tested on the same modular test rig as conventional manual gearboxes without needing conversion or a new system.

The delivery program for the modular test rigs extends from the manually loaded rig through to the fully automatic test line with improved levels of automation.

For more information:
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E-mail: application.usa@teamtechnik.com
Internet: www.teamtechnik.com



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Zimmerman Presents New Milling Machine with Linear Drive

The new FZ 38 from Zimmerman is a CNC portal milling machine driven by linear motors.

According to the company's press release, the machine can achieve time/chip volumes up to 4,500 cm³/min. Feed rates on linear axes of up to 60 m/min. and spindle speeds of up to 35,000 rpm make genuine HSC processing possible. Torque motors on rotational axes with feed rates of up to 150° per second are possible as well. With these feed rates, ancillary times for repositioning, tool orientation or tool change can be reduced.

The FZ 38 allows different work areas, milling spindles and control systems to be combined. The machine has permanent lateral walls, a clamping table connected to the foundation and an upper portal that moves in the x-direction and is driven on both sides. The workpiece is not moved.

The machine bed is constructed from gray cast steel, while the lateral walls, portal and z-slides are welded steel constructions. The lateral walls are filled with a special compound material for damping vibration and stabilizing temperature.

For more information:
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 24371 Catherine Industrial Dr., Ste. 233
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 Phone: (248) 305-9707
 E-mail: Matthias@zimmermann-inc.com
 Internet: www.zimmerman-inc.com

Tornos Technologies Debuts New Swiss-Type Multi-Axis Machine

The new DECO 8sp single-spindle Swiss-type multi-axis, multi-function machine will be making its debut at IMTS.

The machine accommodates parts up to 8 mm. According to the company's press release, the precision machine has accuracies of +/- 1µ.

The machine was developed for new markets in the electronics sector, particularly for mini disk parts for mobile IT units, but is also applied for other types of short parts requiring high precision in the watch, medical and automotive industries.

Key specifications include spindle rpm of up to 15,000, powered by a 3.7 kW motor. Four tools serve the main spindle, up to six for the sub-spindle with up to seven live tools—five for the main and

two for the sub-spindle. Programming can be accomplished with traditional ISO G-code or via Tornos' dedicated TB-DECO ADV program, which utilizes DECO's kinematics designed for faster processing.

For more information:
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 70 Pocono Rd.
 Brookfield, CT 06804
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New Six-Jaw Power Chuck from Schunk

The new ROTA NCR six-jaw power chuck from Schunk was designed for machining thin-walled and easily deformed workpieces. With six-point con-

tact on the workpiece, even pre-machined parts can be clamped without deformation, according to Schunk.

The ROTA NCR consists of a central chuck piston that has master jaws oscillating in pairs for concentric clamping. A pendulum is connected to each set of two case jaws. The result is that the

workpiece is centered between six points of contact in which the members of each pair lie opposite one another. The clamping forces align towards the center of the chuck, thus permitting maximum roundness of workpieces with conventional jaw clamping.

For certain applications, such as finish machining or clamping pre-machined surfaces, the pendulums of the chucks can be clamped in their center position. With this configuration, all six clamping jaws move simultaneously and concentrically. Clamping is achieved by inserting the attachment bolt in the piston.

The ROTA NCR is available in sizes 165, 210, 250 and 315 mm.

For more information:
Schunk Inc.
 211 Kitty Hawk Dr.
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 E-mail: info@us.schunk.com
 Internet: www.schunk.com

China Pneumatic Unveils Precision Planetary Gear Reducers



China Pneumatic Corp. is introducing a new line of precision planetary gear reducers for air motors, servo motors and stepping motors for a wide range of

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applications in aerospace, semi-conductor equipment, robotics, medical, telecommunications, pharmaceutical, packaging, printing, assembly, material handling, coordinate measuring, automotive, textile, special machinery and machine tools.

According to the company's press release, its goal is to collaborate with gearhead, servo and stepping motor and relevant motion control components manufacturers to have the gearheads included as a complementary add-on.

For more information:
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Command Tooling Systems Expands Toolholder Line

Command Tooling Systems announced the addition of more than 1,200 metric toolholders.

The metric expansion crosses into product lines including Micro Precision and XT Precision Collet Chucks;



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SIPCO Mechanical Linkage Solutions Fine Tune Technogear Line

The newest addition to the Technogear product line from SIPCO Mechanical Linkage Solutions is a low-backlash, economical gearbox designed for automation and precision power

transmission applications.

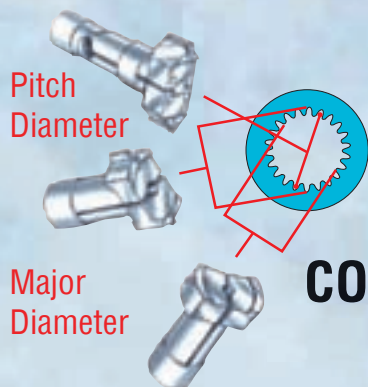
The Technogear LC series precision planetary gearbox is available in four sizes: 50, 70, 90 and 120 with varying ratios from 3:1 to 100:1. Its torque ranges from 10–360 N-m. It reports efficiency ratings of 97% on single-stage units, 94% on double-stage units as well as numerous input configurations.

According to the company's press release, the precision planetary gearbox is built with rigid bearings rated for a service life of 20,000 hours and designed with a lubricated-for-life construction.

For more information:
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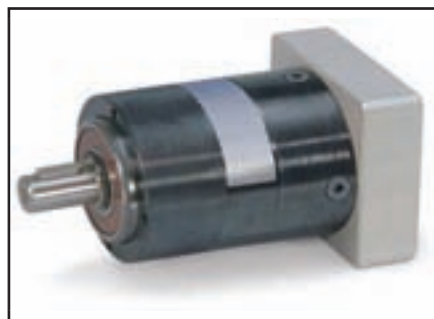
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SMW Autoblok Introduces New Line of Live Tooling

SMW Autoblok introduces a complete line of live tools to provide increased machine utilization of turning centers, resulting in more parts per hour. Standard tooling models feature straight, angle or dual heads and are in stock to fit most OEM turning centers with motorized turrets.

According to the company's press release, the live tooling features precision gears and bearings for accurate and repeatable machining. Tools are sealed against contaminants and coolant intrusion.

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