

Affolter Introduces Gear Machines for Watches & Medical Instruments

Affolter Technologies SA of Malleray, Switzerland, has introduced a new line of gear hobbing and micro-milling machines for the manufacture of small gears, worms and similar parts used in watches and medical and dental instruments.

The Gear AF100 gear cutting center, introduced a year ago at EMO, is an eight-axis CNC gear hobbing machine for cutting parts up to 36 mm diameter and 50 mm length. The machine can cut spur, helical, tapered or convex teeth on gears, shafts and pinions, either by hobbing or tooth-by-tooth using an indexed milling cutter.

Parts are held between centers and are direct-driven by two independent motor spindles. The cutting tool is driven by a third motor spindle. All three spindles are electronically synchronized, with rotation speeds of up to 16,000 rpm.

The Gear AF110 micro-milling center, introduced in September at the AMB show in Stuttgart, Germany, is designed for gear hobbing, screw cutting and micro-milling.

The AF110 is also capable of hobbing gears up to 36 mm diameter and 50 mm length. However, unlike the AF100, the AF110 has no tailstock motor spindle, which allows the cutting spindle to be inclined up to 90° for machining worms, straight bevel or face gears, bone screws and other medical or dental tools and parts. With the AF110, the part is collet-clamped and may be supported by a tailstock center, steady rest or guide bushing.

Both machines have mineral-cast frames, designed to provide thermal stability and vibration absorption. All linear axes have direct measurement



scales for positive feedback, with system resolution less than 1 µm.

Affolter has developed and built machine tools for more than 10 years, says Raymond Graf, sales and marketing manager. But until recently, those machines were manufactured for the use of sister company Affolter Pignons SA, a manufacturer primarily serving the Swiss

watch industry.

Affolter Pignons, which today manufactures more than 30 million gear trains per year, created its own demand for new and updated machine tools. So, in 1991, Affolter Pignons started up a new, separate company to develop its machine tool capabilities. That company is now Affolter Technologies SA. In the beginning, Affolter Technologies worked mainly on machine retrofits, working with lathes and gear hobbing machines.

In 1996, Affolter entered into a partnership with Wahli to develop an eight-axis CNC hobbing machine.

That machine was the Wahli W100. However, about two years ago, Affolter decided to redesign the machine and begin marketing it under its own name, Graf says.

Over time, Affolter Technologies has developed expertise in a number of areas of machine tool manufacture. The company makes its own CNC controls—including both hardware and software development—as well as its own spindles, “the most important mechanical component of the machine,” Graf says.

“We wanted to master the whole technology,” Graf says. “First we only did retrofits of existing machines, and finally, we got all the know-how to develop the machine completely.”

The company has two more gear machine models in the works. The Gear AF90 will be a high-productivity gear hobbing machine. The first AF90 is scheduled to be completed and presented to a customer by the end of 2006, Graf says.

In addition, Affolter is working on the Gear AF120, an eight-axis CNC micro-grinding

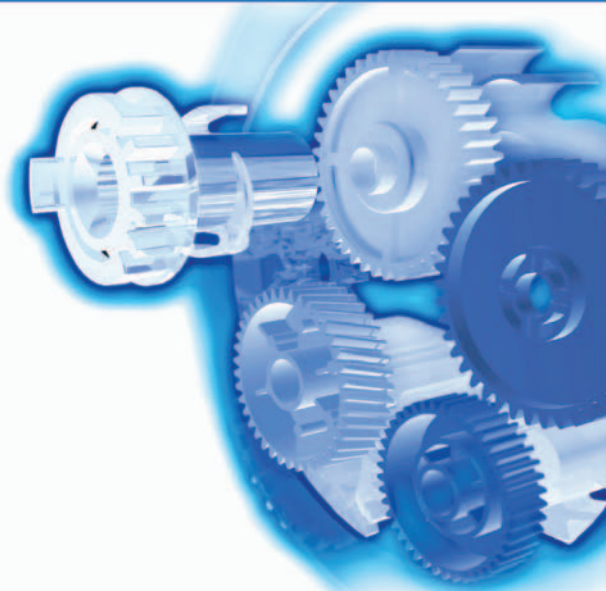


machine, equipped with an 80,000-rpm grinding head motor spindle. The AF120 is designed for grinding gears, tools and parts for the medical sector. The machine will be available early in 2007, Graf says.

For more information:
Eastech Systems Inc.
P.O. Box 6018
S. Hackensack, NJ 07606
Phone: (201) 489-8847
Fax: (201) 489-0048
E-mail: cdeastech@mindspring.com

Affolter Technologies SA
Grand Rue 76
CH-2735 Malleray
Phone: +(41) 32-491-7000
Fax: +(41) 32-491-7005
E-mail: raymond.graf@affelec.ch
Internet: www.affelec.ch

GE
Plastics



Gear up

Superior materials for your gearing needs

Lubriloy* Polymer Alloy for superior wear and friction.
Lubricomp* Plastic Compounds for superior wear and friction.
Verton* Long Glass Fiber Reinforced Plastic Compounds.



HIGH HEAT
RESISTANCE



HIGH
ACCURACY



NOISE
REDUCTION



HIGH TORQUE
RESISTANCE



imagination at work

Contact us:
GE Plastics Technical Center
1-800-845-0600
gelit@ge.com
www.geplastics.com

*Lubriloy, Lubricomp and Verton are trademarks of the General Electric Company.

SPV Spintec's Automatic Deburring Machine Designed Especially for Gear Wheels

The new D-Burro-Mat 68 2006 automatic deburring machine from SPV Spintec is designed for deburring of gear wheels, flanges and other circular symmetrical components.

The machine allows variable settings in length, height and machining angle between the spindle and rotating table for machining various workpieces. Other features include six programmable pre-settings of machining time, a signal input for controlled start from robot manipulator, and a signal output for custom requirements, such as maneuver signals for pneumatic chucks.

According to the company's press release, the speed of rotation of the grinding spindle ranges from 15,000 to 36,000 rpm. The maximum weight of the workpiece is 12 kg.

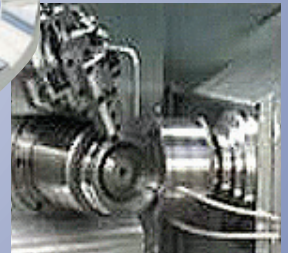
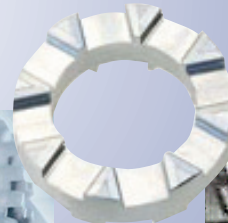
Accessories include an enclosure in acrylic, pneumatic or servo gripping chuck. The deburring machine can be



Don't spec a new machine until you inspect a *Profilator*!



- Polygon & face slot machining
- Gear & spline cutting
- Gear tooth pointing
- Shifter stop machining
- Rotary chamfer/deburring
- Bevel gear deburring
- Gear tooth rounding



- Dry machining modules tailored to precision processing of gears, polygon milling, pointing, shifter tops or deburring.
- Workpiece synchronization provides the ultimate in manufacturing flexibility.
 - Utilize short cycle times, while enjoying a high quality machine on a favorable delivery schedule.

Call today for details.



supplied with a maximum of four grinding spindles controlled by one or two frequency inverters for simultaneous or divided speeds.

For more information:
SPV Spintec AB
Box 303
SE-631 04 Eskilstuna
Sweden
Phone: (46) 16-12-54-70
E-mail: info@spintec.se
Internet: www.spintec.se

Rugged, Reliable, Repeatable ...For 75 Years!

- Applicable to Spur and Helical Gears!
- Gage the Part at the Machine!

Pitch
Diameter

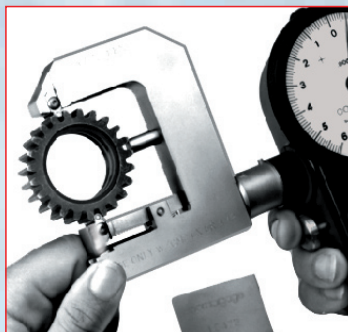
Major
Diameter

Minor
Diameter

COMTOR SPLINE GAGES

For all your
gaging needs,
Comtorgage it!

Analog Dial or
Digital Readout



Internal or
External Spline
Measurement
Made Easy!

*Still using micrometers
and pins method?*

*Comtor Spline Gages
make pitch diameter
measurement quick,
easy and accurate!*

comtorgage®

Comtorgage Corporation
(since 1928)

Phone: (401) 765-0900 • Fax (401) 765-2846

www.comtorgage.com

Bryant Grinder's New Software Enables Lean Production for any Machine Tool



Bryant Grinder, a division of Vermont Machine Tool, released the *Revelations* software, a Microsoft Windows-based, CNC control software designed to make machine tools more efficient, more flexible, and easier to operate.

"*Revelations* software reduces operator training, programming time, cycle and setup time, and scrap," says Craig Barrett, president of Bryant Grinder. He adds that, with optional online Ethernet support, Bryant Grinder engineers in Vermont can troubleshoot and solve a software, electrical, hydraulic or pneumatic issue with a machine that is anywhere in the world.

"Using *Revelations* software increases a shop's flexibility on many levels," Barrett added. "The software can run on any grinder, lathe, machining center, hobber, gear shaper, or special machine that uses a PC-based controller."

Operator training on *Revelations* software takes only a couple of hours. Training is simplified because operators use only one screen to run the entire machine, and programmers use only one screen for flowchart programming. Online documentation, such as help screens and links via help text, is available at the machine, too, guiding the operator through each step in the process. All hydraulic, electrical, and pneumatic diagrams are available online. The software also graphically displays dressing forms and grinding profiles on grinding applications.

"*Revelations* software makes the machine shop flexible on several levels," says Barrett.

Engineers using browser-enabled workstations on a company's network can easily program one or more machines on the shop floor using *Revelations* software visual flowcharts. The programming automatically generates the G-code and downloads it into the control.

Engineers can also generate production estimates from their workstations without running machines, which allows them to reduce setup time and manipulate cycles to fit production requirements.

Revelations software can control multiple machines in a shop—so operators can run more machines and be more productive. Additionally, it has an unlimited range of speeds and feeds, not relying on typical canned cycles, and it helps engineers collect data and manage machines based on that data.

At present, *Revelations* software is being used on machines grinding fuel systems components.

For more information:

Bryant Grinder

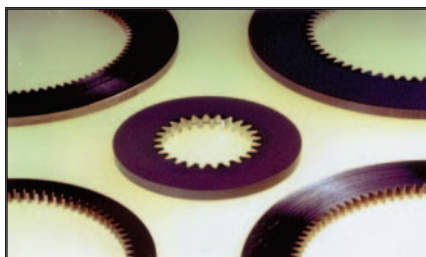
65 Pearl St.

Springfield, VT 05156

Phone: (802) 885-4521

Internet: www.vermontmachinetool.com

Sterling Instrument's New Precision Internal Gears Selectable by Inches or Millimeters



New precision internal gears from Sterling Instrument are available from stock in inch and metric sizes.

The 20° pressure angle inch gears, identified as the S1E62Z- Series, are offered in 303 stainless steel or 2024-T4 anodized aluminum. The metric gears,

identified as the S1E05ZM, S1E08ZM and S1E10ZM Series, are supplied in 303 stainless steel.

The metric gears in Modules 0.5, 0.8, and 1 are ISO Class 7 and are stocked in 5, 8 and 10 mm face widths. They have from 60 to 120 teeth, and outside diam-

Why Grinding... ...when you can Fässler Hone? **HMX-400**



Fässler
Customised solutions

www.faessler-ag.ch

Fässler Corporation • 131 W. Layton Avenue, Suite 308 • Milwaukee, WI 53207
Phone +1 (414) 769-0072 • Fax +1 (414) 769-8610 • E-mail: usa@faessler-ag.ch

eters ranging from 50–150 mm. The inch gears are stocked in 24, 32, 48, 64, 72 and 96 pitch.

According to the company's press release, the metric gears are AGMA Q10 with a 1/8" face width. They have from 20–300 teeth and outside diameters ranging from 1.998–3.998".

For more information:
Stock Drive Products/Sterling Instrument
2101 Jericho Turnpike Rd.
New Hyde Park, NY 11042
Phone: (516) 328-3300
Internet: www.sdp-si.com

New Potentiometer From Nireco Produces Dance Roll Position Feedback Signals

Nireco America Corp. introduces the Series 2699 geared dancer roll potentiometer. The heavy-duty, high-precision geared potentiometer is designed to produce dance roll position feedback signals.

According to the company's press release, the new control offers more than 700 gear ratios from 0.06–25 turns, which eliminates the need for external gearing or timing drives. The dual-bearing design and a 1/2" input shaft handles up to 80 lbs. of radial load.

Since it does not contain internal stops, the unit cannot be damaged by excessive dancer roll travel. It is rated to 1W and provides more than 1% linearity with essentially infinite resolution. Complete PID and tension control circuits are also available.

For more information:
Nireco America
11 Rebel Lane
Port Jervis, NY 12771
Phone: (845) 856-4053
E-mail: info@nirecoam.com
Internet: www.nirecoam.com



**INNOVATIVE,
DYNAMIC,
CREATIVE,
CHALLENGING.**
JOIN US!

Immediate Opportunities in Challenging Aerospace Careers.

The Purdy Corporation is a leader in manufacturing flight critical Jet engine and rotor components including gears, gear boxes and transmissions for OEMs and the United States Government. Aerospace manufacturing opportunities offering stability, job satisfaction and growth are available in the following areas of expertise;

- Gear Management - Aerospace Manufacturing
- CNC Programming (Unigraphics) - Gear Box Housings, High Speed Machining
- Gear Engineering - Process, Planning & Manufacturing
- Gear Machining - Spiral Bevel and Parallel Axis • ID/OD Grinding
- Gear Metrology • Gear Box Assembly and Testing

Excellent benefit and relocation packages.
An Equal Opportunity/Affirmative Action Employer.

Take your career to a whole new level, contact us at 860.649.0000 Ext. 226 or e-Mail to finance@purdytransmissions.com



THE PURDY CORPORATION
60 YEARS OF EXCELLENCE

www.purdytransmissions.com
586 Hilliard Street, Manchester, CT 06042, USA • Phone 860-649-0000, Fax: 860-645-6293



Nitrex Develops New Small-Scale Furnaces



The new NX-400 series of nitriding and nitrocarburizing systems from Nitrex Metal is designed for use in small-scale processing, as well as for general laboratory and testing purposes.

According to the company's press release, the furnaces have a compact construction that makes efficient use of restricted floor space in a plant.

Available in three standard sizes, ranging in workload capacity from 440–880 lbs., the furnace, control system and auxiliary equipment are integrated and mounted on a platform for secure transport by forklift. Alternatively, the system may be physically separated back into individual components at the customer's request.

The NX-400 series comes plug-and-play ready, which simplifies installation.

For more information:
Nitrex Metal Inc.
3474 Poirer Boulevard
St. Laurent, QC H4R 2J5
Canada
Phone: (514) 335-7191 ext. 151
E-mail: paul.gofas@nitrex.com

Rex-Cut's Fiber-Mounted Points Reveal Fresh Abrasives

New cotton fiber-mounted points from Rex-Cut Products expose fresh abrasives as they work to deburr and finish in one

step with chatter-free performance.

According to the company's press release, the mounted points deburr and finish precision machined, cast and extruded parts. Providing smooth, controlled grinding with limited vibration, they come in various shapes, sizes, grits and bonds for use on all hard and soft

WE LOVE THE DAILY GRIND.



And we're grinding more gears every day. Because more and more customers are discovering Schafer's exceptional quality and capabilities. We produce spur, helical and bevel gears (straight and spiral). Internal gears, worm and worm gears. Pinions. Sun. You name it. What's more, our unique partnership with selected overseas producers, including ground spiral bevel gears from Italy and machined components from India and China, increase your savings and enhance our service to you. Call us. We're geared up to grind out the best solutions to your needs.



SCHAFER
GEAR WORKS, INC.

SOUTH BEND, IN • ROCKFORD, IL
www.schafergear.com
 574-234-4116

metals, and will not change their geometry.

Featuring multiple layers of non-woven cotton fiber and abrasive grains pressed and bonded together, the mounted points come in barrel, bullet, conical and round shapes with

1/8" and 1/4" shanks. They are suitable for deburring, blending, finishing and edge-breaking applications on stainless steel, Inconel, titanium and mild steel and are non-loading on aluminum.

For more information:
Rex-Cut Products Inc.
960 Airport Rd.
P.O. Box 2109
Fall River, MA 02722
Phone: (800) 225-8182
Fax: (800) 638-8501
E-mail: bob@rexcut.com
Internet: www.rexcut.com



LIFELINE

**Manufacturing parts is the life of your company.
Setco™ products & services protect the life of your line.**

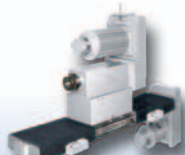
Let Setco™ provide all your precision spindle services for a Lifeline to better performance and increased manufacturing productivity. Setco™ can make your spindles run faster, longer, and with greater reliability to give you the edge that makes your company more competitive.

For a lifetime of improved productivity and a complete list of Setco™ products and services, call:

800-543-0470 Toll Free, or visit setcousa.com



SPINDLES



SLIDES



**setco
RESET** Repair & Rebuild Services



© 2006 Setco Sales Co.

Danaher Motion's Planetary Gearheads Require No Maintenance



Danaher Motion's Micron ValueTRUE planetary gearheads are a more economical extension to Danaher Motion's family of MicronTRUE planetary gearheads.

ValueTRUE provides precise operation with four arc-mins of backlash. They are available in eight frame sizes from 60–200mm with inline and right angle configurations. Gearheads are RediMount™-compliant for mounting to any motor in three steps—simply align, mount and tighten. ValueTRUE gearheads are lubricated for life, require no maintenance and feature a stainless steel output housing required in harsh application environments.

For more information:
Danaher Motion
1500 Mittel Blvd.
Wood Dale, IL 60191
Phone: (630) 694-3322
E-mail: ContactUs@DanaherMotion.com
Internet: www.DanaherMotion.com



SINK SOME TEETH INTO YOUR SALES!

OCTOBER 7-10, 2007 • DETROIT, MICHIGAN, USA

Exhibit at GEAR EXPO 2007

- ▶ Join the largest collection of gear experts in the world at GEAR EXPO 2007 in Detroit — the center of the power transmission industry.

Sell to New Markets

- ▶ Key buyers from more than 30 countries will be on hand to view your products and services.

Introduce Buyers to Your Product Line

- ▶ Visitors to GEAR EXPO can boost your bottom line — more than 80% have buying and specifying authority.



GEAREXPO
The Worldwide Gear Industry Event
2007



The Decision Is Easy! Sign Up Today!
www.gearexpo.com

Owned and Produced by the American Gear Manufacturers Association
Contact us via e-mail: gearexpo@agma.org or call: (703) 684-0211