

Sumitomo's New Grades

FINISH A RANGE OF MATERIALS

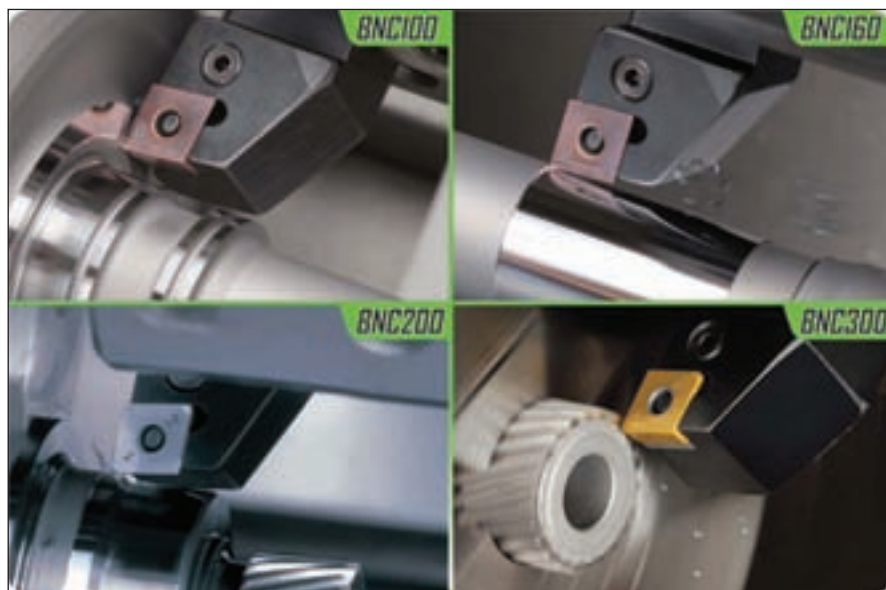
Sumitomo Electric Carbide Inc. released several new insert grades for use in turning of exotic materials, high speed cast iron turning and hardened steel turning applications.

The AC510U and AC520U grades are recommended for roughing, finishing and medium-cut machining of super alloy materials. They have a Super ZX multiple-layer coating consisting of TiAlN and AlCrN layers stacked up to 1,000 layers, resulting in high speed and improved wear resistance. They are both available in molded and ground insert types.

The AC410K grade presents new coating technology consisting of two coating layers, which offer peeling resistance and insert stability, according to the company's press release. The inner layer, called the Super FF Alumina, supplies thermal resistance; the outer Super FF TiCN layer imparts resistance to chipping. The combination of these coatings with a harder carbide substrate provides high wear resistance for continuous to light interrupted machining of gray and ductile cast iron. These features serve to double the tool life of cast iron grades. The AC410K can cover medium- to high-speed machining applications and is available in positive and negative insert types.

A new series of grades, BNC, features four PcBN grades with three styles of edge preparations, all geared at hardened steel machining. Each member of the BNC series has ceramic based coatings, brazings on all cutting edges and cutting edges etched with numbers for identification of used corners.

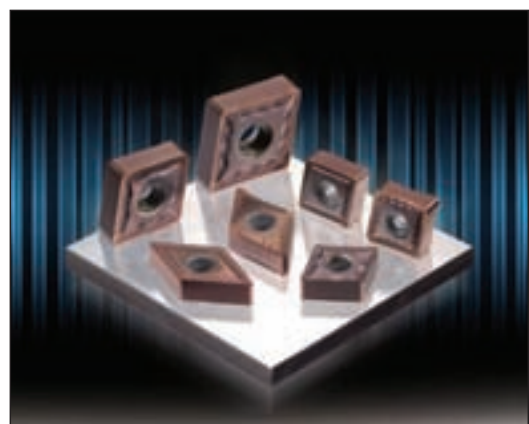
The BNC100 withstands flank and crater wear because of a CBN substrate, and a hybrid TiCN coating provides surface roughness stability.



The BNC160 uses the CBN substrate along with a new binder material for crater wear resistance and edge strength in general and high precision finishing.

For medium-speed machining and carburized surface deduction, the BNC200 offers reliable tool life and integrity due to the grade's edge strength and TiAlN based ceramic coating.

The BNC300 resists chipping and insert wear better than other grades, so finishing applications that engage in both continuous and interrupted surfaces are well-suited for it.



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Milling Cutter's Clamping

HEIGHTENS PRODUCTIVITY



Valenite's ValMILL VFORCE milling cutter system highlights a patent-pending, direct insert clamping device, 'Side Lock,' which has a compact insert mounting providing more cutting teeth per revolution, so the system has feed and material removal rates as much as three times the speed of other traditional milling cutters. The ValMILL VFORCE is capable of cutting a variety of workpiece materials, including cast iron and high temperature alloys, according to Valenite's press release.

The side lock concept releases an insert quickly to reduce changeout times, and the screw size is larger in order to take a bigger force, demonstrating high anti-fling resistance to centrifugal forces during high-speed applications. As the screw tightens, forces in two directions are applied to the insert; it is pushed against the pocket side walls and pulled down to the pocket bottom. The insert becomes locked in, and as a result, the lock screw is tightly positioned to reduce potentially hazardous situations.

"Wedging conditions put the insert into a compressive stress state. Carbide materials are ideally suited to compressive stress and do not perform well under tension (stretching). Carbides are susceptible to fast fracture under tensile loads and sharp fragments are dangerous to operators,"

explains Brian Hoefler, manager of product development for Valenite. "Our system, basically, is engineered to optimize the carbides' fundamental characteristic of compressive properties, far greater than compared to systems on the market today."

continued



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In 2006, Fred Young took more than 30 team members with him to IMTS on a research mission. The honing machine mined from that exploration geared productivity up to 150%. Using capital equipment acquisition as a strategic advantage has driven gross profit margins beyond 50% year after year. His Top Ten Machine Shop rating by Penton Media's *American Machinist* magazine has attracted players in the medical, military, automotive and aerospace industries, yielding contracts for the next generation Mars rover to be launched in 2009.

"We don't wait for a customer to come to us with a job before we invest. We're always ready." —Fred Young, CEO Forest City Gear, Roscoe, Illinois



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The high-density capability of the side lock design translates to more inserts for any given cutter diameter, distributing chip loads more evenly and minimizing work forces at the disperse engagement points. This process helps reduce indexing and tool-change downtime. The mill's cutting action is smoother because the side lock design is compact, providing a longer cutting edge throughout. The ValMILL VFORCE milling cutters come in sizes between 3" and 10" diameters.

For more information:

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P.O. Box 9636
Madison Heights, MI 48071
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Customer.service@valenite.com
www.valenite.com

Dura-Bar Products

GET BIGGER

Dura-Bar's continuous cast bars are now made in extra-large sizes, up to 25" in diameter. The Dura-Bar XL product line is intended for use by industrial equipment manufacturers that produce large parts like gears, pulleys, ways, flywheels, bearings, housings, manifolds and pistons. The extra-large bars are useful for producing molds and pattern and mounting plates. The company hopes the new product will be considered an alternative to steel in large metal component manufacturing, according to Dura-Bar's press release.

Similar to the traditional continuous casting from Dura-Bar, the extra-large



line also has the same permanent mold process that eliminates recurring pattern costs and defects like gas holes, inclusions and hard spots, typically found in material from conventional



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sand casting techniques. The Dura-Bar XL comes in 65-45-12 ductile and G2 gray iron, and the company also offers large-sized rectangles. All Dura-Bar products are available immediately.

For More Information:

Dura-Bar
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Woodstock, IL 60098
Phone: (800) 227-6455
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Mini Thread Grinder

CAPABLE OF HIGHER VOLUME

Drake introduces the GS:TEM "MINI" thread grinder that is equipped to grind parts from 1 mm to 10 mm diameter and up to 100 mm long. The new grinder is aimed towards manufacturers in the cutting tool, automotive, aerospace, thread gage and medical equipment industries. A linear motor, ball screw axes and robot loader are available, and a pallet changer for the robot loader allows the machine to run unattended for three shifts, according to the company's press release.

The Drake MINI is capable of



grinding taps, thread rolls, worms, ballscrews, e-steering components, aerospace fasteners and surgical bone screws. The new thread grinder is also capable of dressing topping and non-topping wheel forms like full radius and gothic arch, acme with crest and root

continued

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radii or chamfers due to a diamond roll contour dresser. The Drake *PartSmart* software is included with the grinder, and the client's parts can be pre-programmed in the system.

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Tornos Lathes

SUITED FOR VARIOUS USES

Several new lathe models were released at the Simodec 2008 international screw-cutting machine tool show in March, including two single-spindle lathes.

The Deco 13e is similar to its predecessor, the Deco 13a, but a fourth independent tool system is replaced with a fixed tool holder that is mounted on one of the two intersecting carriages used for bar-turning, on the Deco 13e. Scope for bar-turning work and counter-operations is provided by the eight linear axes across three tool systems. The Deco 13e allows for an equal level of simultaneous machining operation at both the front and back of the work pieces. The maximum speed of the spindle and back spindle is 10,000 rpm. Tornos has made program transfer from the 'a' version to the 'e' version possible, as well as adaptation for all equipment, tools and accessories, for users looking to switch to the new lathe.

The Sigma 32 is an automatic single-spindle lathe intended to manufacture

medium-complexity components using a sliding headstock capable of machining diameters up to 32 mm, according to Tornos' press release. Each member of the Sigma line of machines has six linear axes, and the Sigma 32 involves simpler programming. The maximum speed of the spindle and back spindle

is 8,000 rpm, and the power of those components is 3.7 kW and 5.5 kW, respectively, for both new machines.

For more information:

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Proportioning Pump Series

HANDLES CAUSTIC CONCENTRATES

Zebra Skimmers introduces a proportioning pump series designed to deal with caustic concentrates and featuring a wide mixing range, compatibility with caustic concentrate and the ability to dilute with water at high temperatures, according to the company's press release.



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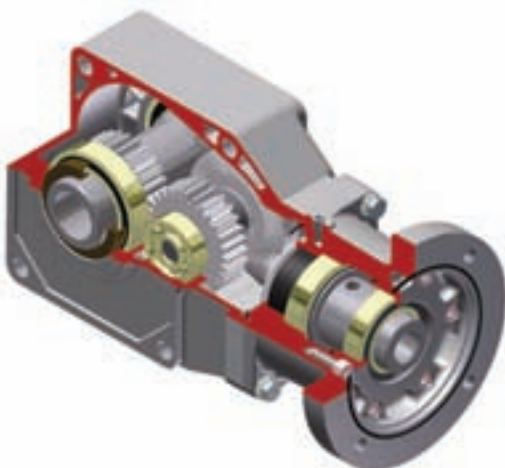
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Hyponic Right Angle Reducer

DESIGNED FOR FOOD-GRADE, WASHDOWN

Sumitomo Drive Technologies introduces its newest Hyponic product variant designed for the food industry and high-pressure washdown (HPW) applications. Developed in response to customer requests, the food-grade, HPW Hyponic features a C-face quill design; a unique FKM antimicrobial, multi-lipped, rotary output seal that acts as flinger to expel contaminants; corrosion resistance; stainless output shaft and hardware; synthetic NSF H1 food-grade lubricant; and antimicrobial DuPont Alesta AM powder coating. The combination of the antimicrobial seal, synthetic lubricant, stainless parts and severe duty antimicrobial powder coating results in a Hyponic right angle reducer equipped for long, reliable service in aggressive, HPW food industry applications, according to the company's press release.



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Chesapeake, VA 23323
Phone: (757) 485-8218
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Heidenhain Contouring Control

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The TNC 620 contouring control functions with digital drive control, and

it is suitable for use on milling machines and machining centers with five axes plus spindles and complicated tasks that use swivel and rotary axes. The TNC 620 can handle strict requirements for the surface of finished workpieces using look-ahead, algorithms for jerk limitation and intelligent motion control, according to the company's press release.

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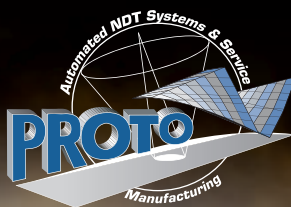
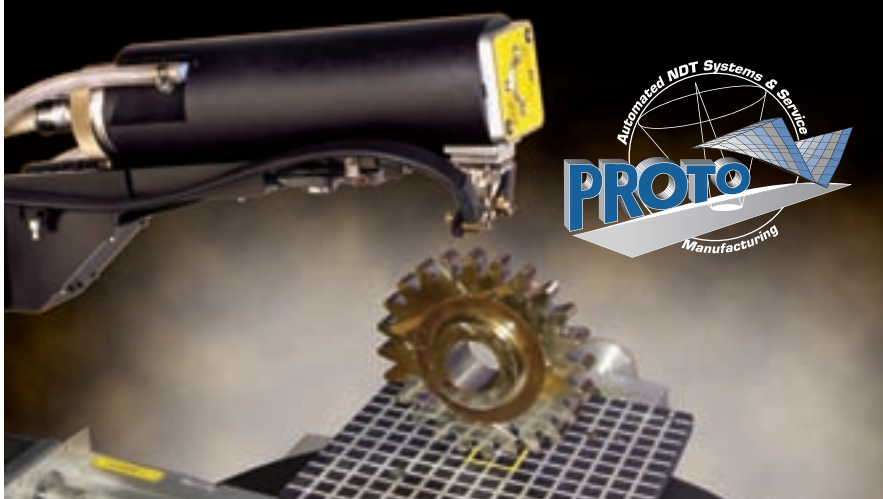
Improve quality, enhance fatigue life, and ensure that surface enhancements are being applied correctly. Even complex geometries such as those found on gears can be easily measured using our systems. Ensure that your components perform to their maximum potential with residual stress measurement.



The Heidenhain serial controller interface (HSCI) is a new feature of the main computer, controller unit and other components of the control system. The basis of the HSCI is the 100BaseT Ethernet network connection standard, which contributes to short cycle times for data transfer, lowered cable expenses and easier installation. The TNC 620 has a uniform digital design from the main computer to the encoder. Wiring in the electrical box is simpler due to the location of the main computer inside the operating panel behind the TFT flat-panel display. Heidenhain provides various options for users to customize the TNC 620 to their specific needs, whether they are the simplest machine applications or the most complex.

For more information:

Heidenhain Corporation
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Schaumburg, IL 60173



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High-quality digital images are made on a 20" LCD monitor by telecentric optics, a high-resolution digital camera and programmable episcopic and backlight illumination. There are several options for storing measuring results and images, including internal memory, internal CD-ROM and USB ports that

can be used in an external source. With a slight footprint that provides space efficiency, the OneTouch is designed for the shop environment, according to the company's press release.

For more information:
Digital Precision Corporation

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Haas Compact Mills

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The OM series office mills from Haas Automation are more size efficient than average CNC machines. They are smaller and lighter, so they can fit through a 36" doorway and into most freight elevators, according to the company's press release.



Two versions of the machine are available. The OM-1 has a work envelope of 8"x 8"x 8" (xyz), and the OM-2's work envelope is 12"x 10"x 12", which allows a greater capacity with the same footprint. They both run on single-phase power of 240 VAC with a 20" x 10" T-slot table, and they are outfitted with a 50,000 rpm brushless micro-motor spindle, which is compatible with tools up to 1.25" shank size. The OM models function at a maximum cutting feed of 500 ipm. An ISO 20-taper spindle and 20-pocket automatic tool changer are features offered in the OM-1A and OM-2A models.

The customary equipment for the compact mills includes a 15" LCD color monitor with a USB port, 1 MB of memory, a coolant system, automatic lubrication and high-speed machining software. A pair of compact rotary tables fit into the work envelopes, so full 4th and 5th-axis operation is possible. Haas also offers a compact office lathe, the OL-1.

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Houghton Cutting Oils

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The Cut-Max V500 series of neat cutting oils from Houghton is biodegradable, vegetable based, lacks mineral oil and chlorinated additives, resists oxidation and offers high natural lubricity to extend the life of cutting tools, according to the company's press release.

This new oil line features a low viscosity, so fluid can be maintained longer and swarf dragout is minimized. They have higher flash points than other cutting oils, and they generate less mist and fumes that can lead to fires, meaning costly carbon dioxide fire blanket



equipment is unnecessary. The Cut-Max V500 oils are best used for applications that use a higher level of tooling performance or where leaks and losses take place in the manufacturing process such as honing and superfinishing, grinding, cast iron gun drilling, general machining and gear machining.

For more information:

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Grinding wheel width	60 mm (extendable to 90 mm)
Grinding wheel diameter	400 mm
Table load	3000 kg

INTERNAL GEARS

Workpiece diameter	230 - 950 mm
Face width	280 mm
Grinding wheel diameter	200 - 110 mm
Grinding wheel width	30 mm



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ZF's High-Precision, Worm Gearboxes

EMPHASIZE DURABILITY AND COST

New technology and designs allow ZF to offer a high-precision, right-angle servo gearbox, the SWG, emphasizing

durability and cost-efficiency. The SWG technology features a computer-optimized profile that delivers 90 percent contact between worm and wheel, an increase of 50 percent more contact than conventional designs offer, according to the company's press release. The larger contact area reduces wear, so backlash levels are constant and predictable, and noise levels are kept under 55dB. Along with a wear-resistant bronze alloy the wheel is manufactured from, similar features throughout the gearbox serve to increase capacity, durability and precision with large diameter bearings that provide increased load bearing capacity. The worm wheel mounted to the shaft uses a press fit and pins instead of a keyed fit, which is less durable.

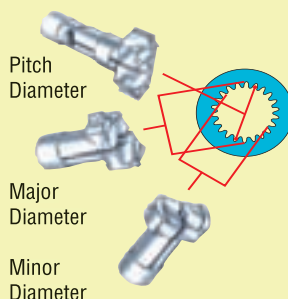
The SWG gearboxes come in three accuracy levels: the high precision unit with a backlash of less than 1 arc/minute, the precision box with 3 arc/minutes and the standard unit with 10 arc/minutes. They come in ratios from 5.2:1 to 90:1, in 10 sizes and with four output options. The 30-800 sizes are ideal for conveyors and handling systems in particular because of available dual output shafts. The units are capable of output speeds up to 6,000 rpm and output torques up to 6,900 Nm with service lives around 25,000 hours.

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Online Calculator

HELPS MANAGE ENERGY COSTS, CO₂ EMISSIONS

Dow Corning introduced an interactive Molykote Energy Savings Calculator, which serves as an online tool for plant managers and industrial maintenance engineers, to help them handle energy prices and carbon dioxide emissions by calculating the means by which these factors can be reduced. Dow Corning's energy savings calculator accepts input for the number of motors on gearboxes, pumps, compressors and fans, as well as the kilowatts they run on, the efficiency, hours per day and days per year. Once this information is computed, users view information such as possible reductions in kilowatt hours, efficiency, the carbon dioxide emissions and the subsequent cost savings available.

Without proper lubrication, drag and friction can result, which can waste money and damage equipment, but plant managers and industrial maintenance engineers can avoid some of these costs while saving energy and reducing carbon dioxide with appropriate lubrication. By increasing awareness about the importance of proper lubrication, plant managers and industrial engineers can benefit from implementing detailed

maintenance programs.

"Optimized lubrication is more important than ever to increase reliability, lower emissions and reduce plant operation costs," says Phil Grellier, global solutions development manager for Dow Corning. "The Molykote Energy Savings Calculator can help

manufacturers meet sustainability goals and fulfill their commitment to innovative, energy-efficient solutions by understanding where they may be wasting energy."

The calculator is found at www.dowcorning.com/content/molykote/energysavingscalculator.aspx.

continued

Reliability begins with a cup of coffee.

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For more information:

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