

Vomat

INTRODUCES FILTRATION TECHNOLOGY FOR METALWORKING INDUSTRY

For grinding modern cutting tools, all parameters that are involved in the manufacturing process must be optimally coordinated with each other. Only in this way can drills or milling cutters be produced in large quantities with consistent high quality as expected by the market. An important part of the puzzle is microfiltration technology. The filtration technology must not only ensure very high purity of a variety of lubricants over a long period of time but also must be of a design that is flexible enough to grow easily with production capacity expansion.

The filtration specialist Vomat from Germany provides high-performance filtration technology – from small stand alone to large industrial central systems – which are designed to meet customer specific requirements and are of modular design. As a result, they can be quickly and easily adapted to changing requirements in the company.

Vomat systems operate in full-flow mode and separate dirty and clean oil 100 percent thanks to a high-performance pre-coat filter design. This results in utmost purity of the cooling lubricants to NAS 7 or 3-5 μm particle size. In addition, the systems adapt automatically to varying production volumes and initiate the filter backwash cycle depending on the contamination level of each filter element. The back-flushing of each individual filter cartridge instead of the whole filter bank at the same time allows the system to operate with very high energy efficiency while keeping in optimal synchronization with the customer's grinding machines. The Vomat FA standalone models offer filtration capacities of 70 to 960 liters (18–254 gallons) and are extremely compact; much smaller than comparable filtration solutions on the market. This keeps the transport costs low, minimizes building modifications and saves precious production floor space.

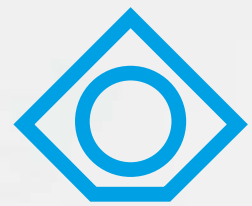


Steffen Strobel, technical sales manager with Vomat, states: “Vomat filtration systems grow with the success or needs of our customers. Thus, standard systems can be adapted to increased or changed production requirements by means of additional modules such as digital displays for visualizing the filtration process, frequency-controlled machine supply pumps or internal and external pre-filters as well as a variety of cooling systems. In addition systems can be designed for individual plant configurations and can be integrated seamlessly into any workflow. This includes large-scale industrial plant-wide central systems with optimal cooling and disposal concepts. Even if there are changes in production requirements, with our help the customer is ensured that his filtration system is adapted to current conditions.”

For more information:
 Oelheld U.S. Inc. (Vomat Distributor)
 Phone: (847) 531-8501
www.vomat.de

THE KLINGELNBERG P-MACHINE POWERING THE CLOSED LOOP

Digital process control now available for cylindrical gears
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Upcoming Fairs:

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When using the Klingelberg Closed Loop for cylindrical gears, the measuring results are stored in a universal XML file. This establishes clear and easy communication between the measuring machine and machine tool. Klingelberg Closed Loop is an open system suitable for use with any machine tool and is already available for Klingelberg/Höfler GearPro machine software.

Klingelberg Closed Loop – long-established proven technology for bevel gears.

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Emuge

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Emuge has expanded its EF-Series of high penetration rate drills with a new line of sub-micro grain carbide coolant-fed micro drills. The EF High Performance Micro Drills range from 0.0295 in. (0.75 mm) up to 0.1181 in. (3.0 mm) in diameter, are all coolant through design, and are ideal for aerospace, medical and precision automotive applications designed for producing very small deep holes in steel, cast iron, stainless steels and non-ferrous materials.

All tools are 6xD length and can accommodate most production applications.

The unique face geometry of the EF Micro Drills generates short chips in the drill operation, ensuring high drill hole accuracy. The micro face point and flute geometry, in addition to the coolant-fed design enable excellent chip evacuation for the highest possible drilling speed, while reducing the need for peck cycles or clearing chips. The drills have a TiALN T99 multi-layer PVD coating designed for added heat and wear resistance. This significantly reduces built-up edges and edge chipping, substantially increasing tool life. In addition,

the large central tool shank channel guarantees maximum coolant intake capacity, allowing optimal coolant transfer.

The internal coolant supply enables economically efficient, high performance machining down to even the smallest drilling diameter of 0.75 mm. Drills also feature a double margin design for added stability and superior hole surface finish.

For more information:

Emuge
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THINK INSIDE THE BOX... AND YOU'LL SEE ALL **WE** CAN DO!



GMTA brings a wide variety of high quality machine tools for component production, plus laser welding technology, robotics, advanced automation, tooling, and parts washers to your door, backed by application engineering, onsite commissioning, local service and after-sale support. We're not all things to all people, but we're getting closer, every day.

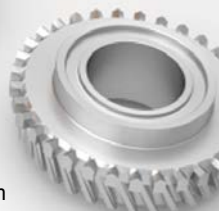
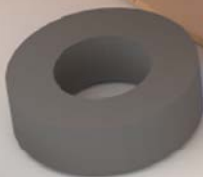
What this means to your production is actually quite simple...a single source, with all its advantages, those productive and those financial, who can solve your output and workflow challenges, because they've seen and solved similar ones for many companies like yours.

Whether your end product requires multiple machining steps, laser welding, pre- and post-cleaning, robotic materials handling, special part articulation or other functional operations, look to a leading integrator of machining systems for the automotive, off-highway, energy and heavy equipment sectors. You only need to remember four letters... **GMTA**.

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See our machines in action!



Marposs

OPTOQUICK 3.0 DELIVERS TACTILE AND OPTICAL MEASUREMENT TECHNOLOGY

Marposs announces the introduction of Optoquick 3.0, its latest addition to the industrial gauging solutions portfolio. Optoquick is a high precision gauging solution designed for the shop floor environment and integrating Marposs multi-sensing technologies for the widest variety of gauging requirements. Optoquick

helps line operators with fast and precise quality control of shafts, directly beside the manufacturing machines, eliminating any waste of time in operations and increasing productivity.

Thanks to the combination of tactile and optical technologies, the Optoquick measuring unit delivers superior gaug-



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ing capabilities and flexibility at the highest levels of its category. In addition to any typical optical measurements such as diameters, radii or run-outs, the Optoquick can easily inspect key-slots and concave profiles not available through shadow casting analysis.

Optoquick has several features designed for flexible manufacturing: broad measuring range, part capacity up to 1200 mm in length and motorized tailstock for part change, as well as manual and automatic loading options. Multiple gauging programs can be loaded into a single machine, enabling the operator to measure different parts in sequence with the maximum simplicity, as scanning a barcode to automatically activate the right measuring setup.

“In design, we targeted the most demanding requirements for precision gauging controls in the shop floor,” says Roland Lang, sales and marketing manager of the flexible gauging systems. “We have worked hard on the core gauging technologies with the goal to overcome traditional trade-offs and to develop a superior solution for the industry.”

For more information:

Marposs Corp.
Phone: (248) 370-0404
www.marposs.com



Swiss Precision Gear Grinding

Cars, aircraft and industrial machinery all require high-accuracy gears for their transmissions. Worldwide, Reishauer gear grinding machines play a major role in the manufacturing process of grinding gears used in such transmissions. Demands placed on these transmissions include the reliable transfer of high torque and power density, low weight and minimal noise emissions. Reishauer precision ground gears ensure that the demands placed on transmission gears are fully met.

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This machine offers a variety of features and options like:

- four motorized grinding spindles
- high precision measuring probe
- latest torque motor based B-Axis design
- automation
- high precision hydrostatic work head swivel B1-Axis
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Mitsui Seiki

OFFERS HIGH-PRECISION
MILLING WITH THE PJ812

The new Mitsui Seiki PJ812 Precision Profile Center is a three-axis CNC vertical jig mill engineered to perform high-precision contour machining and ultra-precise boring of components with critical tolerances. It is ideal for processing parts for the mold and die, optical, aerospace and medical industries.

The PJ812 machining center provides positioning accuracy and repeatability of $\pm 1\mu\text{m}$. A thermal compensation system employs sensors on the machine faceplate and inside the spindle to minimize the effects of temperature changes on part accuracy and cut temperature-generated displacement by 60 percent. This system also reduces Z-axis thermal growth and deflection by 30 percent. Cooling systems for slideway lubrication and ball screw cores stabilize axis feed precision.



Mechanical design features that maximize machine rigidity and accuracy include hardened and ground tool steel box slideways as well as contact elements that enhance acceleration, reduce stick-slip, and allow for feed accuracy of 0.1µm. Another proprietary engineering detail drastically improves the static rigidity of the Z-axis to more than six times that of conventional Z-axis arrangements.

The PJ812 machining center spindle choices include 10,000 rpm with 50-Taper with 30/15 kW (40/20 hp) direct drive motors and up to 30,000 rpm, 18/15 kW (24/20 hp) with 40-Taper. X-, Y- and Z-axis travels are 1,200 mm (48 in.), 800mm (32 in.) and 500 mm (20 in.) respectively. The machine table can accommodate a maximum load of 1,500 kg (3,300 lbs) on its 1,200 mm (48 in.) × 800 mm (32 in.) work surface. Overall machine footprint is

4,720 mm (189 in.) by 3,000 mm (120 in.). A 40-tool capacity ATC is standard.

The fully enclosed machine enclosure allows for complete containment of chips and coolant, while affording excellent work loading and set up ergonomics. The PJ812 possesses an energy saving circuit that reduces electric power consumption by up to 90 percent and compressed air consumption by up to

40 percent. The latest FANUC 31iM-B CNC is equipped with a new HMI and a 500 mm (19 in.) LCD touch screen for ease of operation for set up and at-machine programming.

For more information:

Mitsui Seiki
Phone: (201) 337-1300
www.mitsuiiseiki.com



Brenda Mehlbaum
Schafer A-Team member

Sales Manager and world-class gearhead

Hustle. That's how Brenda describes the sales and customer service at Schafer Industries. Our A-Team moves quickly to find a solution to your gear or driveline needs. With our expertise and technology capabilities, the answer is usually readily available. We customize products precisely to your specifications. Keep you on top of your order's progress. Deliver it on time. And are reachable when you need us. Let's talk.

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Mitutoyo

TEST INDICATORS DESIGNED FOR IMPROVED DURABILITY

Mitutoyo America Corporation announces the release of lever-type dial test indicators with increased durability, sensitivity and readability. A wide array of styli and ruby tips allows for probing of many applications. Stylus length is marked on the dial face to assist customers when ordering replacement styli. To improve readability, a glare-free, flat crystal face has been incorporated to allow for easy viewing of graduations. In addition, the font and dial face color were changed. Multiple layers of hard,



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smudge-resistant coatings on the crystal prevent scratches and contamination. An O-ring seal on the bezel provides smooth rotation and prevents oil and dust from contaminating the dial face. A flange was added to prevent the bezel from becoming detached during use. Optional limit hands can be attached to the bezel, allowing for easy identification of tolerance limits. Improved impact-resistance and a one-piece internal assembly protect your indicator. The one-piece assembly also makes replacement of internal components simple, should service be required. A unique sub-plate structure has been incorporated into all models to prevent the stylus from becoming loose. Redesigned mounting of the gears allows the indicators to maintain good trackability even with prolonged use. Choose from a variety of dial positions: horizontal, horizontal with a 20-degree tilted face, vertical and parallel.

For more information:
Mitutoyo America Corporation
Phone: (630) 820-9666
www.mitutoyo.com

Walter

EXPANDS TITEX PERFORM TAP SERIES

Walter has expanded the productive and cost effective Walter Titex Perform lineup of TC115/TC216 taps with an array of new sizes. The Perform lineup of products is one of three categories to Walter Titex threading tools. 'Perform' tools are products that provide an economical solution with focused importance on price.

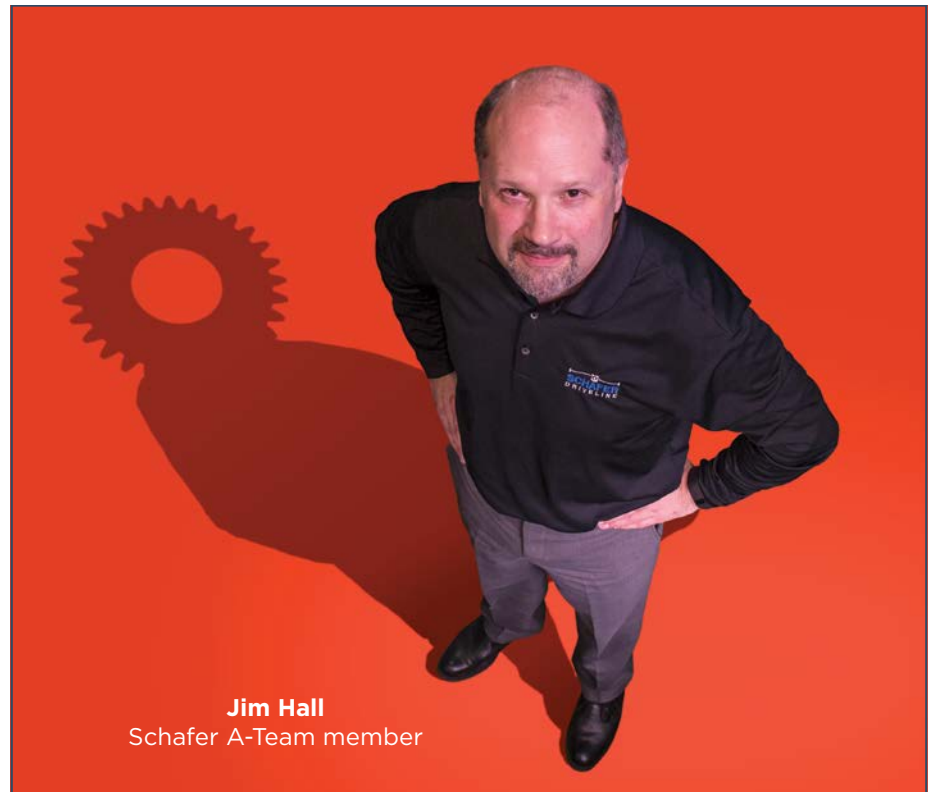
The others are 'Supreme' indicating the highest level of technology and performance available and the 'Advance' which indicates product efficiently balanced between price and performance.

The new sizes include UNC thread styles, giving these highly flexible taps an even wider range of application in a variety of materials. New dimensions for the line include metric fine (MF) M8 x 1 to M18 x 1.5; and UNC #6, 8, 10, plus 1/4, 5/16, 3/8, 1/2, 5/8, 3/4.

The versatile TC115 (blind-hole) and TC216 (through-hole) taps tackle material ranging from steel to aluminum (ISO material groups P, M, K and N), and because of this versatility can help save on inventory costs by reducing the number of taps needed. The TC115 blind-hole tap has a 45° helix angle (for thread depth of 3xD) and a C-form chamfer. The TC216 through-hole tap features a spiral point for forward chip evacuation and a thread depth capability of 3.5xD. Both taps have HSS-E bodies and are available with either TiN or vaporized coating. The vaporized option increases process reliability with tough ISO-M materials while the TiN coating provides longer tool life and higher cutting speeds among its benefits.

For more information:

Walter USA, LLC
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Jim Hall
Schafer A-Team member

Engineering Manager and world-class gearhead

Design. Jim says that's the strength of the engineers at Schafer Industries. We create small, precision gears with tolerances of .0004" to large, high-precision gears up to 32" in diameter. There probably isn't anyone with more design knowledge and experience in light utility axles than we have. Or anyone who'll more accurately engineer products for your application. We'll adhere to your schedule, too. Let us prove it.

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Mecof

PORTAL-STYLE 5-AXIS MILLING CENTER PROVIDES HIGH PRECISION

The large Powermill machining center from Mecof, part of EMCO Group, provides users precision, high dynamics, operational flexibility, and cost-effectiveness in a massive travelling gantry 5-axis milling center. Powermill with its moving bridge structure, permits loading of large, heavy workpieces on the stationary work table from overhead or from either end of the machine making it ideal for handling aerospace components. Simple overall design makes possible easy positioning, set up, and clamping of huge workpieces of practically unlimited weight.

Users may specify travel in X/Y/Z: basically unlimited longitudinal, X-axis travel, and from 4,5,-6 and even 7 meters of Y- axis stroke with vertical ram stroke from 1.5 to 2.5 m plus several milling head options, automatic head exchange systems are available to create a suitable solution for a wide range of large parts. Double CNC platforms on each column with vertical adjustment, 120 pocket or more tool changer, laser checking of tool and workpiece to assure precise setup, high pressure tool cooling system, volumetric compensation and more are available. Axes feed rate is 30 m/min.

The mechanical universal milling head provides 6000 rpm, 38 kW (S1), 1000 Nm (S1), or users can choose a milling head with a straight head or with high-Speed motorized spindles, or indexed or full 5-axis contouring milling heads, to suite the material being machined and the geometric shape.



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Mahr Federal

INTRODUCES CUSTOM RPM GAGE FOR CYLINDRICAL PARTS MEASUREMENT

The Mecof machines are popular for aerospace machining as they are designed for the accurate production of assembly and lay-up tooling, long structural parts such as stringers, larger bulkheads and aircraft engine components such as discs and casings (through the application of rotary turning tables in front of or under the machine axes. Along with the EMCO turning machines, the company can offer a wide range of aerospace machining solutions from hydraulic components, actuators and even landing gear.

The box-in-box structure of Mecof machines assures machine structure rigidity, supporting high precision work over long axis travels. The massive structure combined with agility allows flexible, productive machining of many different types of parts.

For more information:
Mecof (Part of EMCO Corporation)
Phone: (248) 313-2700
www.emco-world.com



The MarSolutions team at Mahr Federal has developed a customized rpm gage for the dynamic measurement of cylindrical parts such as commutator shafts, turbo-charger turbine shafts, and other precision shafts in electric motors. The gage incorporates precision

vees and adjustable end-stops to support the shaft and define its axial position and a motion belt to rotate the shaft at up to 20 rpm.

The MarSolutions group was recently established to augment custom gage development directly with customers in response to



Greg Frazier
Schafer A-Team member

Production Manager and world-class gearhead

Foolproof. That's how Greg describes production at Schafer Industries. Our processes and technology produce the highest quality gears and drivelines. We deliver on time (even when that demands flexing our schedule to meet yours). And our workers speak up when they know how to get you a better price. We invite you to walk our three plant floors. You'll see we're the safest bet for your next project. Let's meet.

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increased demand for custom gaging solutions for dimensional metrology. Operating worldwide from a number of facilities, the MarSolutions Engineered Metrology Team will help customers analyze the gaging requirements of their application, then design and build a customized gaging solution to meet those requirements.

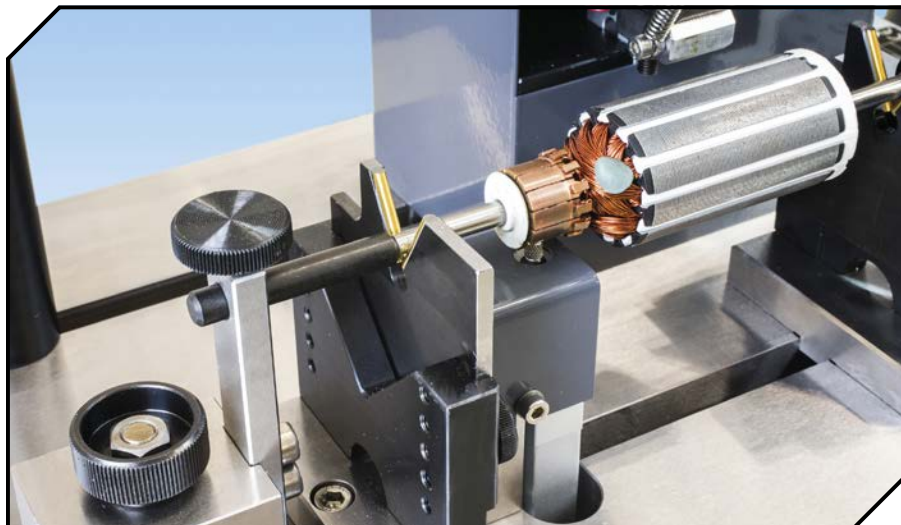
The MarSolutions Commutator Gage can be used in the lab or on the shop floor to measure multiple dimensional parameters, including diameter, roundness, runout, segment gap, and segment height to height and profile. The gage can be dedicated for a specific shaft size or made adjustable by the user to measure shaft lengths from

130 to 300 mm, shaft diameters from 4 to 20 mm, and winding diameters from 25 to 80 mm. A DC motor drives the motion belt from 2 to 20 rpm while the gaging computer collects data for analysis.

The user customizable software allows results to be displayed as bar graphs, polar graphs, or XY graphs with measuring values or mean values. The D1200X software interface optimizes gage use and allows quick, easy creation of customized forms and programs, and provides integrated functions for measuring system analysis, repeatability and reproducibility. SPC functions allow analysis of X/S and X/R, Pareto and histograms, and data can be exported in QDAS, QUASAR, ASCII and EXCEL formats.

As a customized design, the MarSolutions rpm measuring gage can easily be adapted for other part dimensions and/or shaft designs.

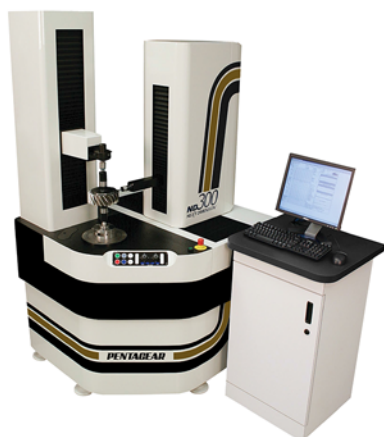
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