

Gleason

Modular Standard Workholding puts the performance benefits of tool-less quick-change workholding into a system of standard, interchangeable, and readily available modules.

Tim Zenoski, director, global product management, workholding, The Gleason Works

Gear manufacturers are meeting fast-changing customer demand with just-in-time production of smaller batch sizes requiring frequent part changeover. Traditional workholding taking 20 or 30 minutes for changeover and considerable operator experience are, out of necessity, giving way to quick-change alternatives. These new solutions can be installed and removed in just seconds, with only a single tool, and by even a novice.

Benefits such as increased spindle time, more productivity and lower cost per workpiece are readily apparent for users of this latest generation of workholding. Gleason's Quik-Flex and Quik-Flex Plus systems, for example, have enhanced workholding changeover for small and medium size cylindrical gears with a system of modules that can be installed on a base arbor permanently mounted in the work spindle with just the twist of an activation handle. (Quik-Flex is so simple and effective that even non-operator contestants in our tradeshow demonstration challenges have routinely removed and installed Quik-Flex in under 10 seconds.)

The new modular, off-the-shelf standard. Today, we're raising the quick-change bar even higher, with introduction of a system of Modular Standard Workholding that puts Quik-Flex performance into a system of small, medium and large standard interchangeable modules that span the most common range of cylindrical gear diameters. If Quik-Flex results in shorter cycle times chip-to-chip, then Modular Standard Workholding does it one better: shorter *ship-to-chip* time. Now, there's an in-stock, off-the-shelf solution available to users almost overnight to meet the latest workholding requirements of many of the most common cylindrical gear bore sizes and diameters. End result: elimination of many weeks of waiting, and the inherent cost, for special tooling whenever a new application arises. Instead, manufacturers can meet most, if not all, of their needs with any of a family of just eight standard modules covering bore diameters ranging from 18 mm to 100 mm.

Each of these small, medium and large modules consists of an interchangeable clamping head connected to an interchangeable arbor body, both of which come in a variety of sizes to form a multitude of standard combinations to fit the user's part-specific application requirements. These modules interface

with just three sizes of Quik-Flex base adapter, permanently mounted in the work spindle. The base unit is designed to be fine-tuned during its installation for minimal axial and radial runout. The modules can be installed, and removed, in just seconds with just a quick twist of the system's simple, removable, activation handle. No other tools are required, nor any of the usual mounting bolts, set screws or ejector screws to deal with. Note that an internal cam locking mechanism built into the base ensures that modular colletting tooling is centered and drawn firmly against the seating face of the base.

Most importantly, modular standard workholding makes no compromises on quality. Accuracies and repeatability of 5 microns (0.0002") TIR — identical to the other Gleason workholding — is guaranteed. It's also equipped with Gleason's 'New Blue' segmented collet, which delivers exceptional reliability over an extremely long life as well as a particularly wide expansion range of up to .50 mm (.019") for increased flexibility.

Finally, since customers are increasingly in need of the ability to track critical data, Gleason is incorporating 'Gleason 4.0' and gTools technology into its workholding. gTools gives users of modular standard workholding the option to use RFID chips to, for example, to determine how many times the workholding has cycled. Knowing this can help the customer to determine when preventive maintenance is required. It can also be used to trigger reorder points for wear parts such as collets.

For additional information on the new modular standard workholding, and the complete array of Gleason workholding solutions., visit the website below.

Editor's note: Learn additional information in the workholding feature on page 26.

For more information:

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Machine manufacturer Klingelberg will be presenting its innovative Closed Loop concept for cylindrical gears—a pioneering Industry 4.0 solution—at booth A105, located in Hall W1 from April 15–20. With its entry into the robotics industry, Klingelberg is also launching an initiative to expand its business outside the gear industry. Klingelberg's cycloid measurement option for precision measuring centers provides a reliable solution for monitoring high production standards.

Focused on highly effective generating grinding in large-series manufacturing, the Höfler Speed Viper Cyclical Gear Grinding Machine draws on the successful concept of the well-established Viper 500 series of Höfler Cylindrical Gear Grinding Machines. Four different machine models are available to suit individual requirements: Speed Viper 300 and 180 in a single-spindle configuration, and Speed Viper² 180 and 80 in a dual-spindle configuration. Speed Viper is designed for maximum workpiece diameters of 80, 180, and 300 mm, depending on the model. The Speed Viper² dual-spindle concept achieves the shortest auxiliary times and therefore fulfills the productivity requirements of the automotive industry. With an outside diameter of 320 mm and a width of 200 mm, the grinding worms ensure a long tool life while minimizing auxiliary times for tool changes. An automatic tool clamping system with an integrated balancing unit also contributes to shorter tooling times. With a partial or full automation system, the Speed Viper can also be equipped with an automation interface that meets the VDMA 34180 standard.

The Speed Viper platform is optimally designed for the Industry 4.0 manufacturing environment. Thanks to a broad array of applications and software, Klingelberg's cyber-physical production system centralizes production control, leading to a standardization of results achieved on different machines and even in different plants.

Designed for use in Closed Loop processes, the P 26 Precision Measuring Center stands for quality management of gearing with scope for future development, and is designed as a compact unit suited to a workpiece diameter range of up to 260 mm. The machine and software concept is optimized for the measurement of complex drive components using a technology that replaces up to six conventional measuring methods: gear measurement, general coordinate measurement, form and position measurement, roughness measurement, contour measurement and optical measuring technology. This guarantees maximum measuring accuracy and reproducibility.

With the cycloid measurement option, Klingelberg now offers a reliable solution for monitoring the high production standards of the robotics industry. Cycloid transmissions enable high reduction ratios and are used to transmit forces in robot arms. As the need for high-precision robots increases along with increasing levels of automation, the combination of precision measuring centers and gear grinding machines for cycloids ensures continuous improvement in production quality.

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GWJ Technology

EXPANDS SYSTEM CALCULATION SOFTWARE

GWJ Technology, Germany, a manufacturer and provider of calculation software for mechanical engineering and gear manufacturing, recently introduced a new version of its system calculation.

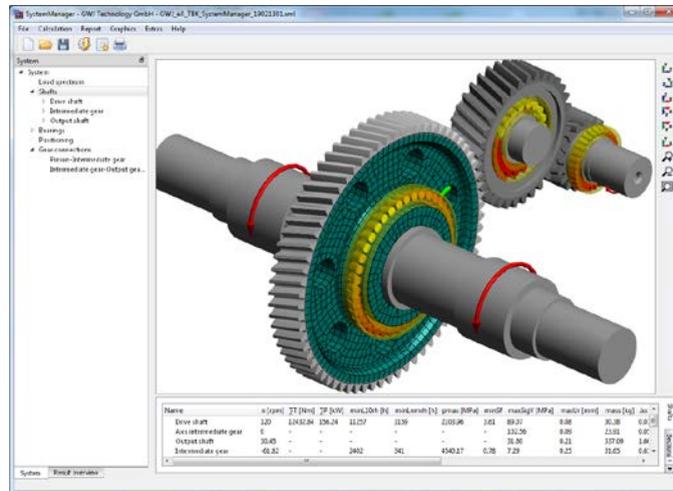
A major extension is the possibility to consider gear bodies of cylindrical gears as 3D elastic and meshed parts. This functionality of 3D elastic parts (meshed FE parts) for housings and planet carrier, which has been around for years, was further extended. By means of 3D elastic gear bodies, the gear body stiffness can be considered in a better way, especially when it comes to the dimensioning of flank modifications. 3D geometries of gear bodies can be defined using either a polygon or the direct import via 3D STEP/IGES. It is thereby possible to define

forces and bearings directly on 3D elastic parts.

The extended rolling bearing calculation allows the use of elastic bearing rings for even more detailed analyses. There are several more improvements in the software like the addition of the

REXS format, which is developed by FVA (German Research Institute for Drive Technology) for gearbox systems or additional result tables in XLS and XLSX format. Needle bearings type HK and BK are now available. The bearing database from SKF was updated to the latest data and a bearing database from Schaeffler with FAG and INA bearings was added. For documentation points on the shafts, a stiffness matrix can be determined. A new option for supporting positions was integrated too. GWJ provides an outlook on its ongoing activities in software development at this year's Hannover Messe at Hall 25, Stand A23.

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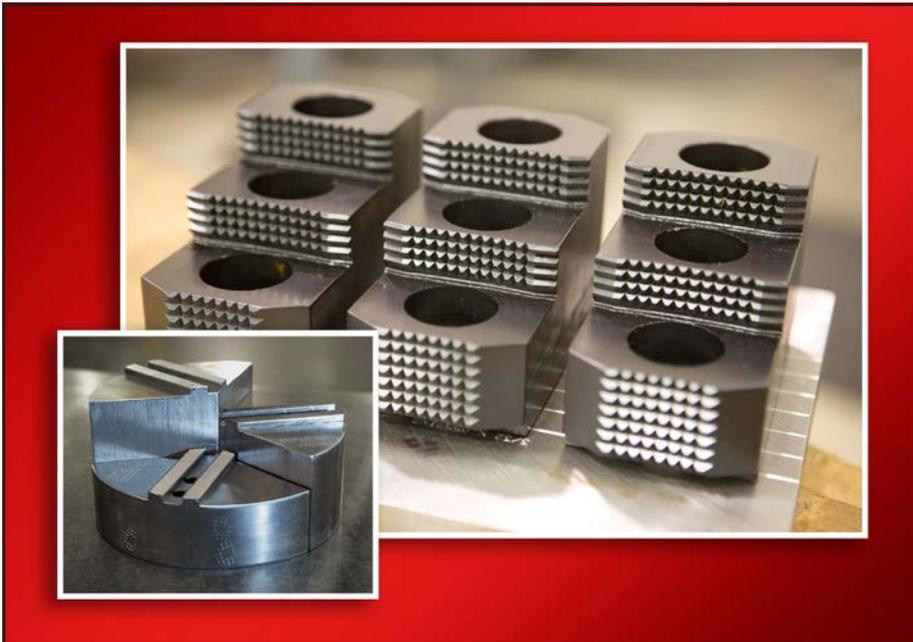
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manufacturer, Dillon manufactures special top jaws from 1018, 1045, 4140, 8620, A-2, 6061 aluminum, and stainless steel. A comprehensive website provides complete details and includes an “easy quote” format with “fill-in-the-blanks” convenience at the website below. Dillon standard and custom chuck jaws and collet pads and jaws are ideal for high speed machining, as well as precision boring, tapping, drilling and finishing across virtually all industrial markets. Dillon custom, special, or modified hard, soft or full grip top jaws are manufactured with industry-best turnaround time, which saves time and money by reducing downtime.

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RELEASES MEASURLINK 9

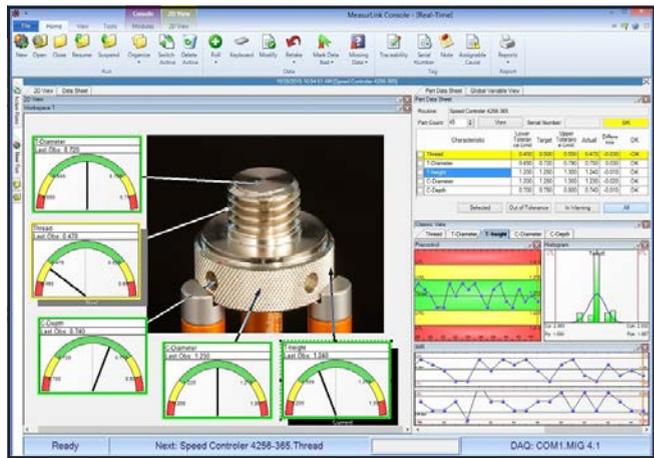
Mitutoyo America Corporation is pleased to announce the release of *MeasurLink 9*, the latest version of Mitutoyo's real-time statistical process control and data collection software.

Updates on the *MeasurLink 9* release include:

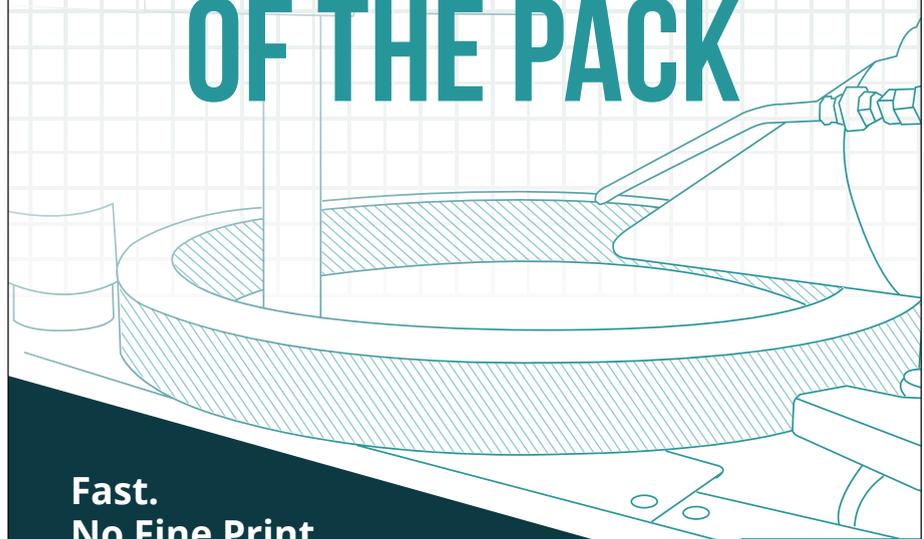
- Supports Windows users and allows single sign-on ideal for teams, groups and companies
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