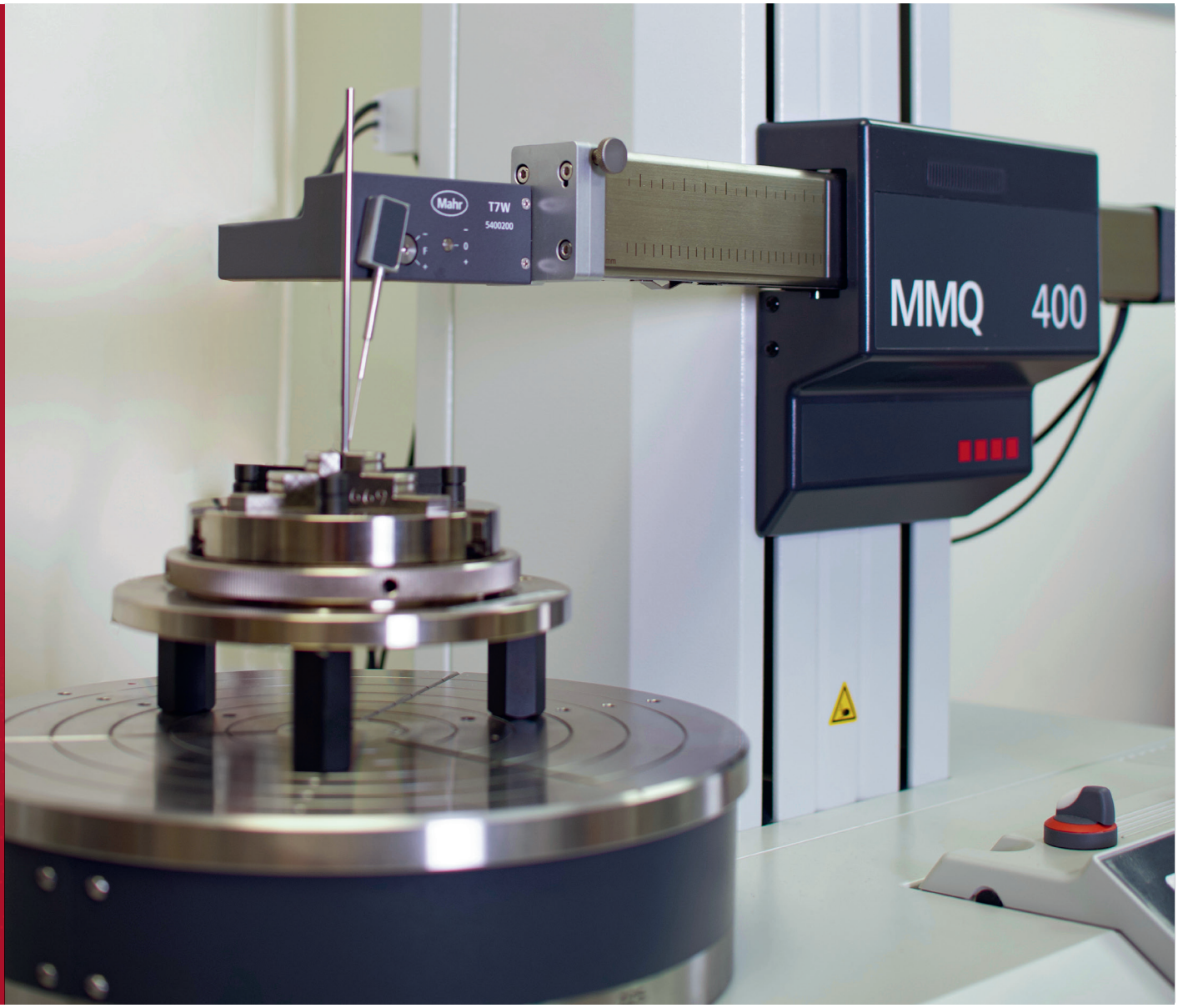
TechMet Carbides Upgrades Quality Assurance for Tungsten Carbide Products, using Mahr Surface Measurement Technologies



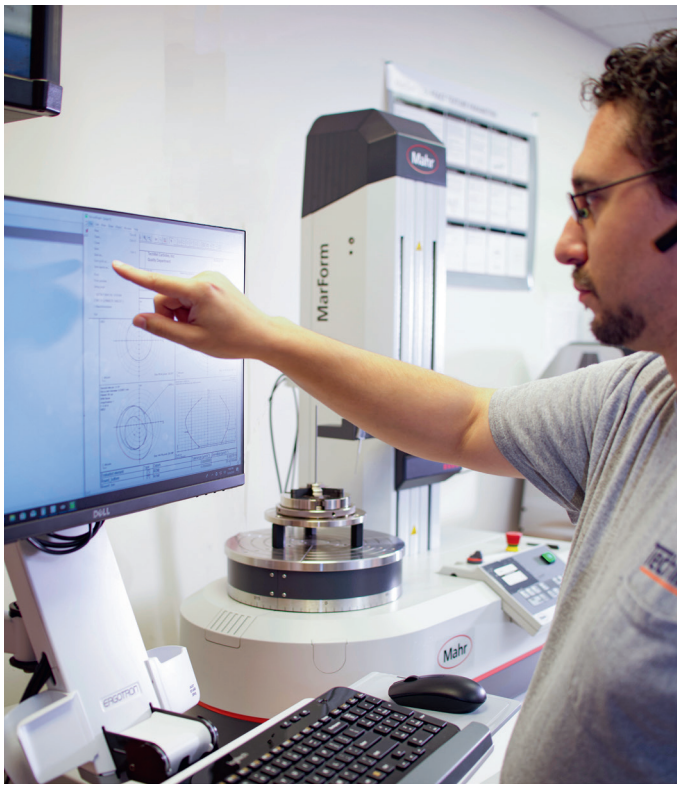
Extreme precision enables highly accurate product inspection to assure dimensional tolerances

TechMet Carbides, North America's number one provider of carbide tool blanks, is an independent, privately owned company that began in 1998 with the goal of providing world-class tungsten carbide technology and products to fabricators and OEM producers. TechMet's tungsten carbide products include precision carbide rod blanks, burr blanks, indexable insert blanks, wear parts and a wide variety of specialty items. They are used by tungsten carbide tool fabricators for the automotive, aerospace, and general metalworking and woodworking industries, including OEM and special tool manufacturers throughout North America.

Tungsten carbide is a chemical compound containing equal parts of tungsten and carbon atoms. It is pressed and formed into shapes through a process called sintering for use in applications like industrial machinery, cutting tools and abrasives, among others. The material is harder and denser than steel, at about 9-9.5 on Mohs scale, and about 10 times harder than 18K gold. Its extreme hardness makes it ideal for cutting tools and surfaces used in fabricating metal parts – and it wears far more slowly than steel tools, an important factor in high-precision/high-volume production. Tungsten carbide tools are used in manufacturing semiconductors, automobiles, airplanes and more, and TechMet Carbides provides the carbide tool blanks used in their production.

For optimal precision, these challenging applications require dimensions of tool blanks including cylindrical rods that must be produced to extremely close tolerances. TechMet wanted to ensure that all its products meet these stringent specifications and avoid "Out of Round" (OOR) conditions that can compromise the tools' precision. They set out to increase measuring accuracy, seeking a new way to measure various dimensional characteristics that would be more accurate than the anvil micrometers and St. Mary's fixture they had been using to date

TechMet Carbides turned to Mahr Inc. for a solution that would help them achieve higher levels of precision measurement than ever before, meeting customers' needs to continually optimize their own products and production processes. Working with Mahr, TechMet was able to fold new measurement systems into its inspection processes and improve quality assurance for its tungsten carbide products. Specifically, they are now using the MarForm



The MarForm MMQ 400-2 roundness/cylindricity measuring system can measure a multitude of form characteristics and requires that each moving axis of the system be calibrated and the relationship (parallelism or perpendicularity) between them be checked.

MMQ 400-2 universal form measurement machine and MarSurf PS10 portable roughness measurement system to ensure their products are within roundness, cylindricity and roughness specifications. With these high-precision tools, the measurements are definitive and reliable, contributing to customers' confidence and manufacturing quality.

The MarForm® MMQ 400 range is a flexible, fully automated solution for form and position measurements and much more. The use of extremely smooth axes and the MarWin platform software ensure that other characteristics, such as roughness, waviness, and contour measurements can also be completed. The flexibility and versatility provide a highly cost-effective measuring system.

MarForm MMQ 400 can be used universally for comprehensive workpiece assessment as per DIN ISO 1101, for unusually long, large or heavy workpieces, and in production or inspection rooms. Its versatility makes MarForm MMQ 400 a game-changer. Highly accurate axes and scales ensure measurements are completed with the lowest measuring uncertainties. Intuitive handling is enabled with simple switching between different measuring tasks and customizable software with feature-based creation of measuring programs and management of favorites.

The MarSurf PS 10 is a practical roughness measuring unit for mobile use. Using a smartphone-like 4.3 inch touch screen display, operation is fast, intuitive and user-friendly. The new generation MarSurf PS 10 design measures 31 roughness parameters, offers a convenient list of “favorite“ functions in the display, and provides laboratory level performance on the shop floor.

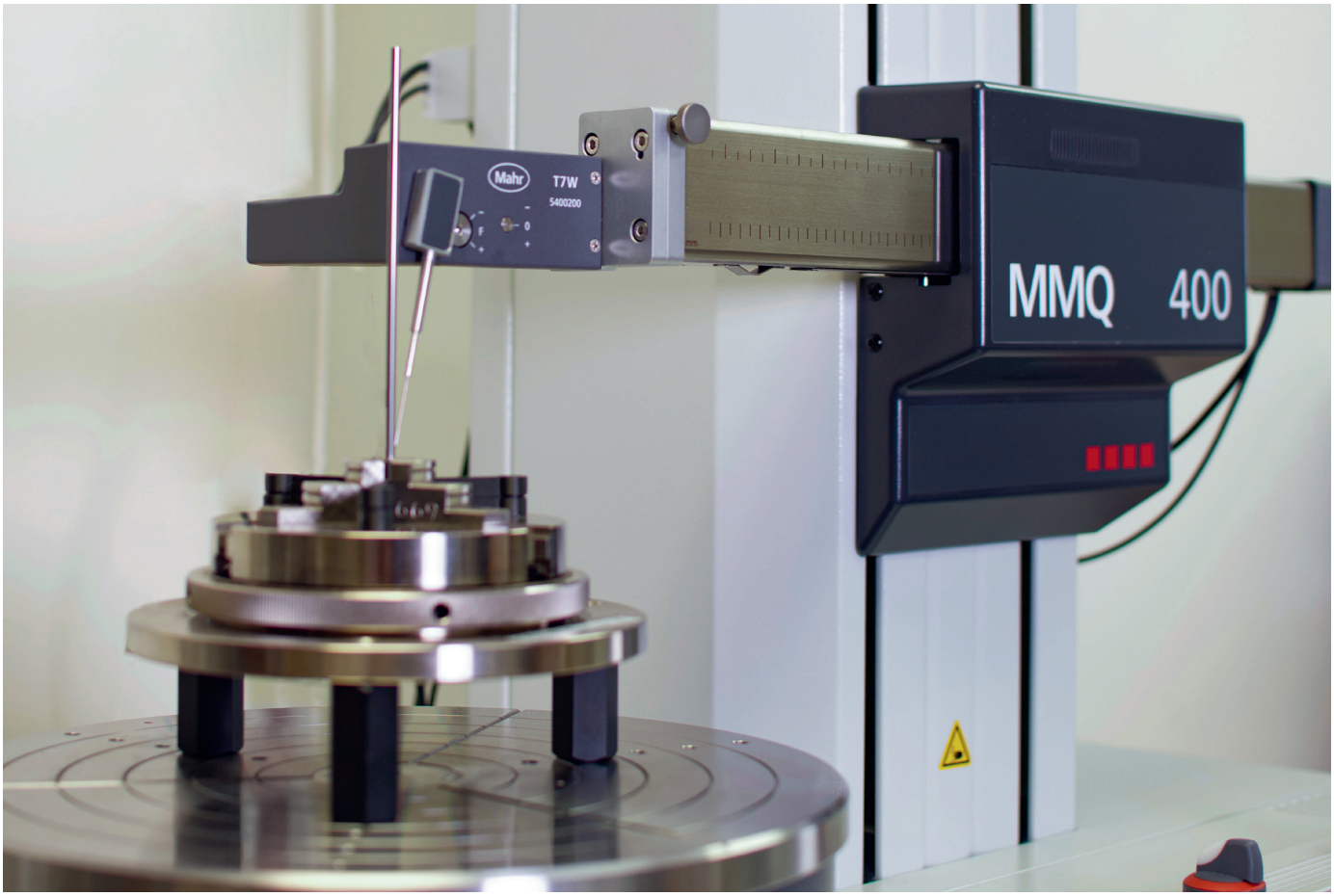
The measuring unit is intended for quick roughness testing in and on a machine while in production. It is excellent for use in quality assurance of milled and turned parts, ground and honed workpieces, on large machines, large workpieces, or for use with incoming inspection. The range of measuring applications is expanded by the ability to remove the drive unit from the MarSurf PS 10 and operate it separately from the display, providing the user with more flexibility. The drive also incorporates built-in “Vees“ to support small diameter parts during the measurement cycle. Optional probes for different measuring tasks allow for the measurement of gears and deep measuring points such as in grooves or bores.

Why Mahr?

Mahr has a long history of providing the best measuring systems available and optimizing them for specific applications like TechMet Carbides. Rich Deptola, Quality and Continuous Improvement Director of TechMet Carbides, said he decided to work with Mahr because of the company’s excellent reputation, quality products, and its instruments’ unrivaled accuracy in measuring key product and component dimensions. He cites customer service and ease of use as added benefits – always important factors in the ongoing use of such essential instruments that have quality control implications.

TechMet has incorporated the MMQ 400 into its everyday product inspection process, using it to check roundness of the company’s precision-ground rod blanks and to determine fitness for use. It has allowed TechMet to elevate its already stringent quality verification requirements with highly accurate testing and measurement processes. The company considered using vision systems for checking shaft roundness, but ultimately Mahr’s solution won out.

The ultimate payoff? “Peace of mind that comes from knowing the results generated are absolutely accurate,” concluded Deptola.



The MarForm MMQ 400-2 roundness/cylindricity measuring system.

Mahr Inc.
1139 Eddy Street
Providence, RI 02905

+1-800-343-2050
www.mahr.com

CS-1040 0921