

gear

TECHNOLOGY®

JUN
2021

QUALITY

- SHOP FLOOR GAGES
- CMM GEAR INSPECTION
- OPTICAL METROLOGY



www.geartechology.com

Gear Technology is published
by The American Gear
Manufacturers Association

gear

TECHNOLOGY® Vol. 38, No. 4

departments

06 GT Extras

GT Revolutions: Advantages of Chamfering with Gleason; **GT Videos:** Klingelnberg Examines Wind Energy Solutions

09 Publisher's Page

How Do You Make the Perfect Gear?

10 Product News

Affolter Group Offers Versatile and Efficient Gear Hobbing Machine; **Liebherr Offers** Solution for Robotics and Special Applications in Gearing; **PTG Holroyd** Collaborates with **Siemens** on Gear Grinding Center; **SMT** Releases MASTA 11; **Mitutoyo** Releases EJ Counters and LG100 Series Linear Gages

64 Industry News

News and notes from **Solar Atmospheres**, **Gleason**, **Nordex**, **Verisurf**, **LK Metrology** and more.

70 Advertiser Index

Contact information for companies in this issue.

71 Subscriptions

Fill out the form to continue receiving *Gear Technology*.

72 Addendum

Not Your Average Drone Delivery.



Vacuum Heat Treating Services

We know high quality gears and components are vital to performance. Our leading edge vacuum technology and expertise provides precise control and repeatability for consistently superior parts.

- Low Pressure Vacuum Carburizing (LPVC)
- Vacuum Gas Nitriding
- Vacuum Stress Relieving
- High Pressure Gas Quenching (HPGQ)

Advantages

- Uniformity of case depths
- Minimized distortion
- No IGO (Intergranular Oxidation)
- Parts returned clean, free of soot – eliminating downstream cleaning processes



For more information or a quote, call 1-855-WE-HEAT-IT or visit solaratm.com



ISO 9001:2015
AS 9100D
registered

Eastern PA
Western PA
California
South Carolina

VACUUM PROCESSING
Heat Treating • Brazing
Carburizing • Nitriding



Cover Photo by David Ropinski

Affolter Group

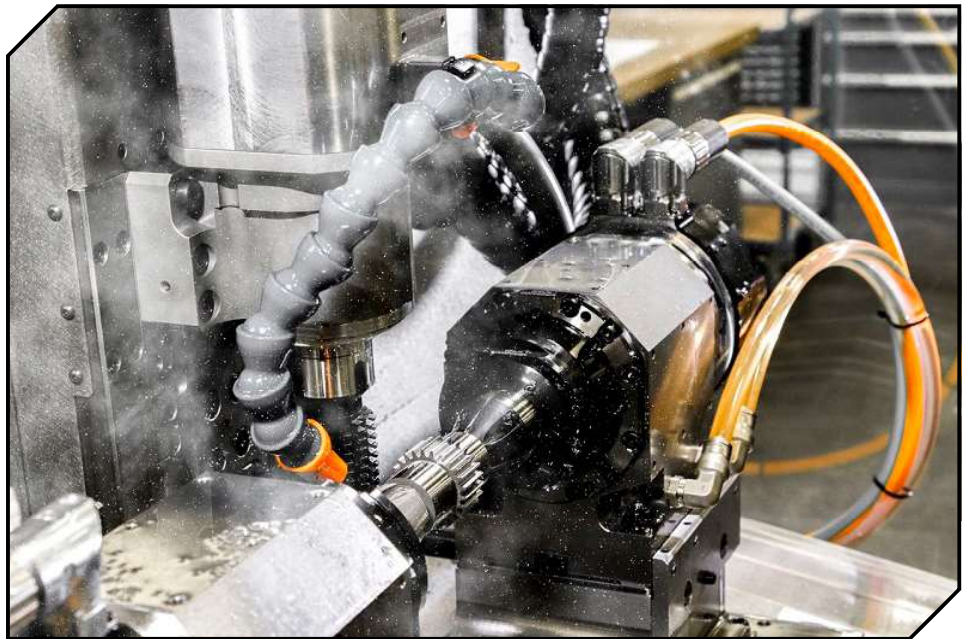
OFFERS VERSATILE AND EFFICIENT GEAR HOBBING MACHINE

Affolter Group has introduced the AF160 is the most versatile Affolter gear hobbing machine to date. “The AF160 is designed for high precision manufacturers that need versatility and maximum efficiency,” explains Vincent Affolter, managing director of Affolter Group. “With eight axes, a state-of-the-art digital CNC control, a variety of automation solutions and a maximum module of 2 mm, it is ideal for manufacturers in industries such as automotive, aerospace, aircraft, gearbox, medical or robotics.”

The AF160 can process parts with an outside diameter of up to 60 mm and a length of 250 mm. The machining length is between 110 and 180 mm. The eight axes — all of them independent — make the AF160 the most flexible Affolter machine to date. It can produce straight gears, helical gears, straight bevel gears, face gears, straight or helical crowned gears, worm screws, worm wheels, cylkro gears, and internal gears. Power skiving, the milling of worms and shafts, as well as chamfering is possible, too. Affolter continued, “The AF160 enables manufacturers to produce an impressive variety of high precision gears, worm screws and worm wheels on the same, compact machine.” The footprint of the machine is only 4m². Including the loader AF72 it is a little more than 6m².”

“We think of it as a solution, not a machine — a solution that meets the needs of our customers. Thanks to the new CNC Control, various automation systems and peripherals, and the versatility of the AF160, we can offer maximum productivity for high-precision manufacturers in a very broad range of applications,” Affolter added.

The engineers of Affolter Group cooperated with Beckhoff Automation to launch the brand-new CNC Control Pegasus. The high processing power ensures extremely fast regulation. “It controls all machine axes as well as a multitude of peripherals for various options and automations,” said Affolter. Programming is simple,



intuitive, and user-friendly with a 19-inch touch screen. The new CNC Control integrates IoT. Data can be shared on the cloud, streamlining after-sales service and preventive maintenance, and therefore minimizing downtimes. Software updates can be done remotely.

Depending on the application and production processes, manufacturers need automation solutions to facilitate an autonomous operation for 12 to 24 hours. Affolter provides a range of such automation solutions: The universal multi-axes part loading and unloading system AF72 was especially designed for the AF160. It features a double gripper system for parallel loading and unloading and offers different methods of feeding based on the volume, product, and application. The AF160 can also be equipped with the deburring unit AF54, integrating the deburring process into the gear production. Different clamping systems provide for added versatility. Customizable coolant systems and chip extraction conveyors are available as well.

www.affoltergroup.ch