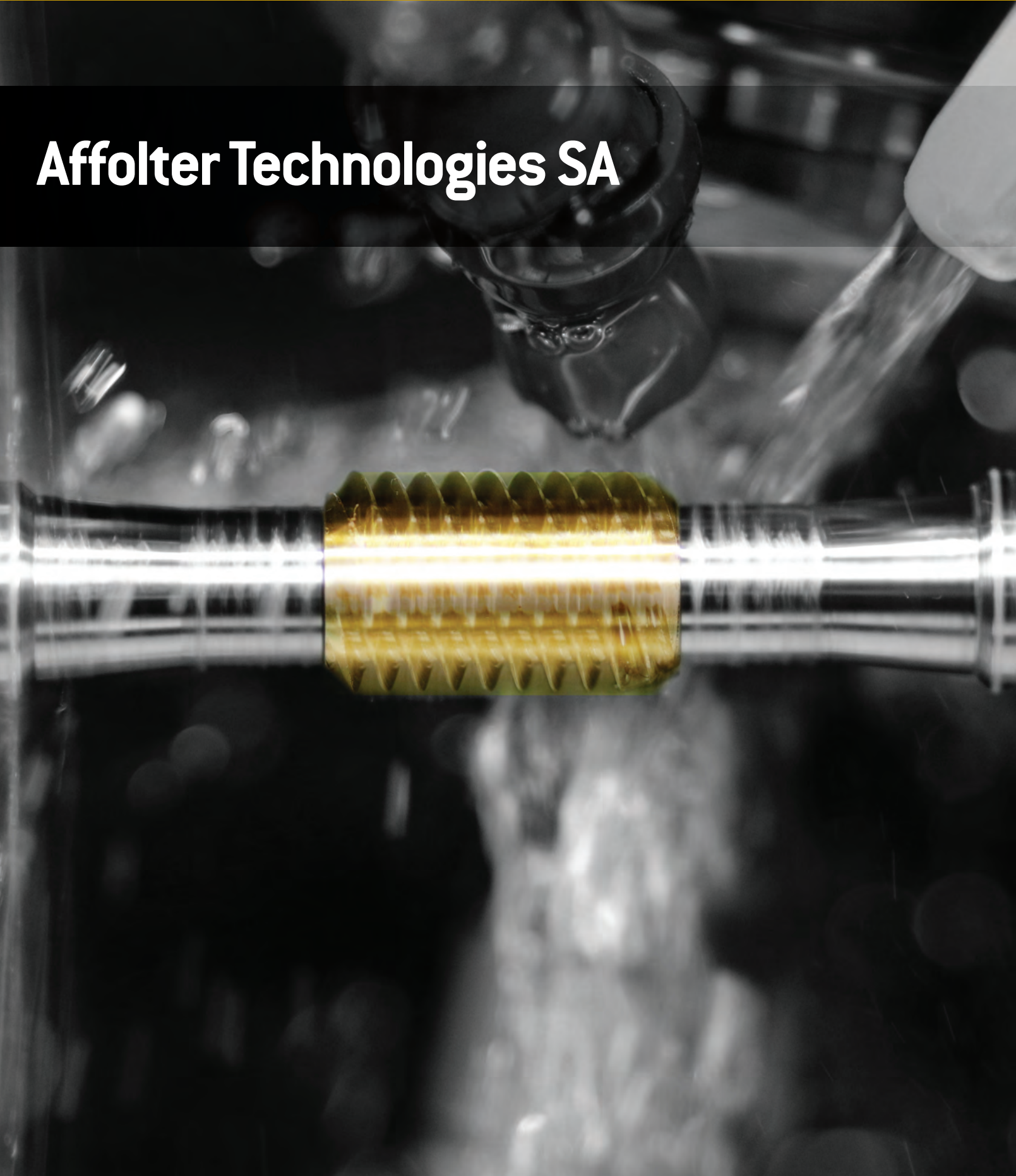


Affolter Technologies SA



Building upon its almost 100-year history of making small gears and pinions for Swiss watchmakers, today the company is manufacturing technologically advanced high-precision gear hobbing machines for micro-gear customers in a range of industries.

By Molly J. Rogers

AFFOLTER WAS FOUNDED IN 1919 BY LOUIS AFFOLTER, making pinions and gear assemblies for local Swiss watch customers. In 1926, Louis expanded its capabilities and set up a workshop in a family apartment, sparking an almost 100-year tradition of keeping the company in the family. In 1946, Louis' sons Andre, Rene, and Marc took over their father's business. In 1985, third-generation Marc Alain, Jean-Claude, and Michel began managing the growing operation. The fourth generation, Gregory and Vincent Affolter, recently took over the ever-expanding business from their fathers in 2016.

Through the years, while the Swiss watchmaking industry increasingly became known for quality and precision, Affolter followed suit. The company moved into a new building next to its workshop in 1957 and continued to experience growth. The company incorporated the name, Affolter Pignons SA, in 1978, and it formed Affolter Technologies SA in 1991. Affolter Pignons SA and Affolter Technologies SA are both headquartered in the small town of Malleray, Switzerland, and have more than 160 employees worldwide. Affolter Technologies SA focuses on the design and manufacturing of gear hobbing machines.

"The years of experience making pinions and small gears for the watch industry created a great knowledge base for developing new ways and technologies to make hobbing machines for such applications," said Affolter's Business Development Manager Mikael Affolter.

The company offers a range of gear hobbing machines within its Affolter Gear Line. This includes the AF90 with 6 CNC axis — a compact and economical machine with a maximum cutting length of 40 mm and maximum part diameter of 30 mm. The AF100 and AF101 are also offered as highly flexible machines with up to 8 CNC axis, maximum cutting length of 50 mm, and maximum part diameter of 36 mm.

In 2016, Affolter launched its AF110 Plus CNC as the latest addition to its line of gear hobbing machines. The new AF110 Plus is Affolter's most advanced machine. It has 8 axes with a maximum DP of 17, minimal DP of 1270, and a spindle speed of up to 12,000 rpm. The AF110 Plus machine can cut spur, helical, frontal, bevel, and crown gears, and it can be equipped with Affolter's development of Worm Screw Power Skiving, which is a new way of making small worm shafts with a reduced cycle time that's two to five times faster than the conventional hobbing process.

Affolter's Gear Line caters not only to the watchmaking industry but also to other micromechanical sectors and the automotive, medical, robotic, and aerospace industries.

"Affolter's Gear Line is a compact, precise, and productive machine concept," Mikael said. "Power, rigidity, and precision combined with universal applicability provide a means of manufacturing complex parts at the cutting edge





of technology. From standard products to custom-made developments, it encompasses the full range of expertise in very stringent fields.”

In addition to precision and rigidity, Affolter’s gear hobbing machines are fast, ergonomic, and environmentally friendly with an integrated protective working area, containing oil mist and reducing noise. The company ensures service and flexibility to suit each customer’s needs through customization of mechanical components, digital controls, and software.

Machines can be equipped with the company’s own advanced technology development, the Affolter Leste CNC control, that was specifically designed for handling up to 12 axes. Also, different automation systems for part loading and unloading systems are available, such as universal grippers, drum loader, or robot loading, as well as options such as deburring, dry cutting, centering microscope, and oil mist aspiration.

Within a short period of time, Affolter Technologies has built machines not only for its own use, but also for customers all over Europe and the Far East. Most recently, it opened an office in Shanghai for sales and technical support.

Affolter is ISO 9001:2008 certified and a member of industry associations including the Federation of Swiss Watch Industry (FH) and Swissmem: the Swiss association of mechanical and electrical engineering industries. In 2016, Affolter became a member of the American Gear Manufacturers Association (AGMA) and participated in AGMA’s 2016 Fall Technical Meeting as one of the presenters.

“AGMA offers us the possibility for market exposure, in particular through events like annual member meetings, the Gear Expo, or the Fall Technical Meeting that takes place every year,” Mikael said. “Through this association and especially during the Fall Technical Meeting, we have the possibility to share our know-how and machining processes, control, and more. For us, it’s the place to be if we want to be integrated in this market.”

Affolter has established a distribution network with contacts worldwide and is represented in North America by Rotec Tools Ltd., which offers sales, service, and parts support.



“We are convinced that the Affolter product offers great machines for customers that are already making gears or customers that are considering to make gears,” said Ivo Straessle, president of Rotec Tools. “The simplicity of these machines is remarkable. The user-friendly controls with step-by-step and easy-to-follow functions will simplify the gear-making process. With a relatively small investment, you can keep know-how and technology in-house.”

Customers can contact Straessle at Rotec or Affolter to discuss their projects. With these valuable resources on-hand, the company looks to gain more ground in the U.S.

“Our positive impression of the number of visitors recorded during exhibitions and the interest in our products have confirmed the importance of our presence in this market,” Mikael said. “We continue to develop new products and processes and hope to gain the confidence of new customers. The U.S. market is very important to us, and it is one of our priorities to be integrated as quickly as possible.” 🇺🇸