

The Latest in Broaching

From standardization to automated, Industry 4.0 capable broachers, here's the latest in what's being developed in the field of broaching.

Alex Cannella, Associate Editor

BROACHING MACHINE SPECIALTIES MOVES TO STANDARDIZATION, ADOPTS NEW FRAME

Broaching machines have always been treated a little differently by buyers than other types of machine tools. Rather than purchasing a standard machine, buyers would often force a broaching manufacturer to customize their machines to meet rigorous specifications. Matt Egrin, president of Broaching Machine Specialties, has been observing this dichotomy for quite some time.

"[Gear manufacturing machines customers] are walking into a company like Mazak or Hardinge or any number of those big name guys..." Egrin said. "They're going in there and they are buying a standard machine off the floor. It's comes in this color, it's got these controls, and this is how it works. A lot of broaching machine customers don't look at broaching the same way. They don't walk into a broach company and say 'I want that machine standard off the floor.' Rather they send us a thick spec book or something many dozens of pages long and say you have to build your machine to our specs."

In his years of time at Broaching Machine Specialties, Egrin has seen plenty of tradeoffs that come with insisting on custom-made broaching machines: longer delivery times, more expensive machines, more complicated in-field service—which again means more expensive and slower repairs, and a lower resale value when the machine is no longer needed.

So in 2017, when Broaching Machine Specialties developed its latest product, the Dual Drive electro-mechanical table-up broaching machine, they drove to standardize the design wherever possible and have urged its customers to look at the machine like they look at other types of machine tools and purchase it standard. And according to Egrin, it's been working, with their most high-profile sale being a large multi-national auto supplier, which approved the new BMS machine to be used in its plants throughout North America without having to customize it to meet their company specifications.

Standardizing the machine's design has kept it price competitive, along with a host of other benefits that normally come with standardization: easier maintenance, faster part replacements, and faster machine delivery time—16 weeks compared to BMS's previous 22–24.

None of these talking points are particularly controversial. On the contrary, they're manufacturing 101 maxims that have held true since the Model T and are already readily accepted elsewhere in the gear manufacturing industry, which is a core part of the Egrin's argument.

"If you're ok with buying a Mazak just the way it is...right off the floor, why can't you do the same for a broach?" Egrin said. "I'll save you money. I'll deliver it faster."

But to dispel what might be the most likely cause for potential trepidation about the Dual Drive, just because the machine



The Dual Drive broaching machine from Broaching Machine Specialties.

itself is standardized doesn't mean its tooling has to be, as well. Broach tools, fixtures, automation, you name it—the Dual Drive can still mount custom tooling for different jobs, as well as tooling from other manufacturers.

But standardization isn't the Dual Drive's only selling point. While perhaps not as headline-grabbing, just as important is the machine's H-frame design. In older, traditional table-up machine designs, the workpiece is supported on an L-shaped bracket mounted on the slide, which results in a downward moment that can cause the bracket to deflect, resulting in a degradation of part quality. With the new H-frame design, the broaching force is centered between the two roller screws and in line with the part travel leading to improved part quality, with a bonus reduction to how much floor space is required for the new design.

Going forward, Egrin would like to continue pursuing further standardization, envisioning a future where each of BMS's broaching lines and varying size machines have been converted to standard models. But in the meantime, he says that the Dual Drive has seen a positive reception, and he'll keep trying to convince his customers that standardization can work in broaching.

For more information:

Broaching Machine Specialties
(248) 471-4500
www.broachingmachine.com