

Glebar Company



thrufeed processing of carbide cutting blanks

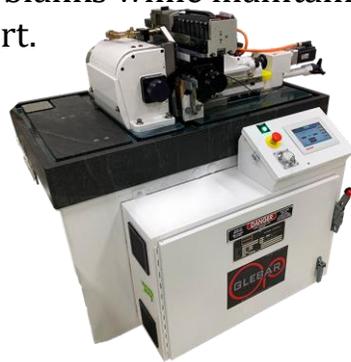
Glebar Company's position in the machine tool industry is driven by its solution orientated leadership and skilled engineering staff. Market studies have indicated a healthy growth cycle in the specialty carbide cutting tool industries especially in the aerospace sector. Glebar identified this opportunity and introduced a new machine platform, the GT-610 EZ Thrufeed Centerless Grinder. This machine was designed specifically for the thru-feed processing of carbide cutting blanks with the intention of meeting a certain price point for that industry.

incumbent process

- ❑ Narrow grinding wheels are used applying more pressure to the part wearing the wheel out faster.
- ❑ Multiple thrufeed grinds are required occupying skilled operators and accelerating wear on the grinding machine and tooling.
- ❑ Legacy machines are extremely large in comparison to the small diameter of the carbide cutting blanks and take up valuable square footage on the manufacturing floor.

challenges

- ❑ Carbide is one of the hardest metals on Earth, ranging in hardness between 65 and 85 Rc, and after sintering has a rough surface finish and chips easily making it difficult to grind.
- ❑ Deliver a process to grind carbide cutting blanks while maintaining cylindricity of 2 microns over a 4" long part.



solution – GT-610 EZ Centerless Grinding Machine

- ❑ Operating on a much smaller footprint than the competition, the GT-610 EZ excels at thrufeed grinding hard materials such as steel, carbide, PCD inserts, and technical ceramics.
- ❑ The 8-5/8" long resin bonded grinding wheel spreads the grind over a longer distance lengthening the wheel's lifespan.
- ❑ Available with a variable frequency drive on the work wheel spindle for increased wheel surface feet when running super abrasives.
- ❑ Produces G-ratios that can exceed those of machines twice its size.

benefits

- ❑ On a 0.750" diameter carbide blank the roughing operation removed 0.012" and the finish pass removed 0.003" achieving a better than industry surface finish.
- ❑ Cylindricity spec of 2 microns over a 4" long part met the customer's specifications.
- ❑ Straightness and roundness of the parts were sub 1.5 microns.