GT-610 SD

Infeed / Thrufeed Centerless Grinder

Designed to grind supermaterials such as polycrystalline diamonds, the GT-610SD platform can be adapted to solve other hard materials where the process is unknown and challenging.

This machine was configured to gather all the parameters affecting the grinding process for the sake of analysis and optimization. The result is the ability to fine tune the grinding process through data acquisition and then modify it to improve throughput, increase wheel life, and achieve the most optimum setup.

**Machine Bed**

Like the GT-610 CNC, the GT-610 SD weighs approximately 8,000 pounds and is built on a mineral cast base for rigidity, thermal and vibration stability.

**Independent Slides and Multi-axis Precision Control**

The super high rigidity roller guides carry the work rest blade on one axis and the regulating wheel on an independent second axis. Both are precision ground surfaces and maintain a resolution of 0.1 microns. The high-speed, high-performance multi-axis controller ensures that diameter control is maintained.

**Workhead Assembly**

A 15HP motor drives the 10” (254 mm) diameter x 8-5/8” (219 mm) wide grinding wheel mounted on a twin-grip super precision spindle. With a variable speed vector drive, the machine maintains constant surface speed as the work wheel wears, ensuring repeatable and efficient grinding performance. The workhead assembly design allows a single operator to replace the grinding wheel in under 15 minutes. Also available is a variable frequency drive on the work wheel spindle for increased wheel surface feet when running super abrasives such as vitrified CBN. Spindle RPM can be varied depending on the wheel type and wheel dressing parameters.

**Work Wheel Dresser**

The machine control detects loading on the grinding wheel and initiates the dressing cycle to maintain efficient grinding.

**Automatic Wheel Balancing System**

A built-in automatic wheel balancing system dynamically adjusts and eliminates wheel vibration, producing superior surface finishes and improved wheel life.

**Controls and Custom Software**

Where this machine shines is in the control software, which is entirely developed at Glebar and customizable to address your application and your process. The intuitive touch screen interface allows all movable axes of the machine and peripherals to be programmed for an efficient, short cycle. The controller can also interface with a gantry system for efficiency. A laser micrometer can also be integrated to directly feedback part diameters for automatic size compensation. It can also communicate remotely via EtherCAT®, by and large the fastest and largest Ethercat technology.

**Automation and Glebar Advanced Analytics**

To provide a completely hands-off system, this machine incorporates a 6-axis robot, which picks a part from a pallet, places it in a high accuracy optical gauge, measures the component in three places, and then the machine determines what to do next to reach its target diameter. It then proceeds to grind, clean and dry the part. Glebar Advanced Analytics interfacing to supervisory plant controls is also available to gather production data and track maintenance and critical operational statistics.

**THE GLEBAR ADVANTAGE:** Smaller than competing machines in size and horsepower and tooled up with cheaper grinding wheels yet achieves a level of autonomous intelligent operation and efficiency never before achieved on a centerless grinder.
**KEY FEATURES**

- Part diameter feedback, allowing the machine to correct the wheel dress profile for size variation by station and slide positioning
- 10” or 12” diameter grinding wheel is available
- Twin Grip Spindle is our standard design
- Available ABEC 7 bearings and super high precision regulating wheel housing to maintain extremely tight tolerances
- Available metrology device (P4K) which scans and provides feedback of the entire component geometry for all parts in a cycle to automatically correct the grinding wheel dress shape (correcting the wheel dress shape from any measurement device is patent-pending)
- Custom automation with gauging integration
- In- and post-process gauging system available for 100% inspection of parts
- 8-5/8” wide grinding wheel
- Independent upper and lower slides
- Super high rigidity roller guides with 0.1 micron scale feedback
- Stepper motor-driven upper and lower slides
- A built-in blade height ramp system for finite blade adjustment
- Automatic wheel balancing
- Acoustic emissions sensing for superior wheel dress quality and automatic blade touch-off
- Fully Enclosed Platform with Mist Collector
- Simple touch screen controls
- Remote Connectivity via EtherCAT®
- CE certification and approved safety interlocks available

**SPECIFICATIONS**

Diameter Accuracy: Better than 0.00005” (1.27 microns)
Grinding Diameter Capacity: MAX 1-1/2” (38.mm) - MIN 0.002” (0.05mm)
Work Wheel Diameter: 10” (254 mm)
Work Wheel Length: 8-5/8” (219mm)
Work Wheel RPM: 200 - 3600
Regulating Wheel Diameter: 6” (152 mm)
Regulating Wheel Power: 2HP (1.5kW)
Upper Slide Resolution: 0.1µm (0.000004”)
Lower Slide Resolution: 0.1µm (0.000004”)
Machine Weight: 8100 lbs.

**AVAILABLE ACCESSORIES**

- Bowl Feeder
- Post Process Gauging
- Conveyors
- Gantry Pick and Place
- Template Tracing Regulating Wheel Dresser
- Mist Collector
- Quick Change Gripper (patent pending)
- Pressure Washing System
- And MORE (visit website for full list)

Glebar is an ISO 9001 Certified Company