

# GT-610 CNC



INNOVATION  
MANUFACTURED™  
Since 1952

## High Precision Automated Infeed/Thrufeed Centerless Grinding System

Glebar's vast experience and unique infeed grinding technology shine in this higher precision machine tool, able to process challenging components, such as titanium aerospace fasteners, arthroscopic shavers, bone drill blanks, transmission bushings, small powdered hard metal components and much more.



In addition to our 10" work wheel design, the GT-610 CNC is now available in a 12" work wheel that offers an ultra precision twin-grip spindle design for increased rigidity, faster component processing speed and is designed for larger diameter parts.

### A Complete Solution

The GT-610 CNC is the complete "lights-out" solution for applications where a high degree of automation, data gathering and gauging feedback is required. The GT-610 CNC weighs over 8,000 pounds and built on a mineral cast base for rigidity, vibration and thermal stability. Glebar's vast experience and unique infeed grinding technology shine in this higher precision machine tool, able to process challenging components, such as titanium aerospace fasteners, arthroscopic shavers, bone drill blanks, transmission bushings, small powdered hard metal components and much more. This fully automated system is capable of grinding and gauging multiple components (up to 8 - or more) to a high degree of precision. Configurable with pick/place gantries or six-axis robots, this machine ensures a hands-off, high production or frequent changeover operation with the assurance of automatic size compensation and 100% inspection.

### Independent Slides for Quick Setup

The GT-610 CNC's two independent slides (upper and lower), which control the regulating wheel and the work rest blade position, holding the part being ground in place, provide significantly easier and quicker set up than competing systems. The multi-axis controller can position both grinding wheel slides to a resolution of 0.1 micron (0.000004").

### Workhead Assembly

The machine comes standard with a 10" work wheel with super precision twin grip spindle. Constant surface speed monitors grinding wheel circumference and adjusts spindle rotational speed to maximize grinding efficiency. Building on over 65 years twin-grip spindle design technology, Glebar is now offering an ABEC 7 twin-grip work wheel spindle design (with 12" work wheel option) on the GT-610 CNC for increased rigidity, faster component processing speed and is designed for larger diameter parts.

### Movable Work Rest Blade

Glebar's patented programmable motorized work rest blade option adjusts the lateral position of the parts (when grinding), which is ideal when controlling a radius behind a fastener head or when grinding the tip of an arthroscopic shaver, for example.



### CNC Work Wheel & Regulating Wheel Dressers

The CNC work wheel dresser incorporates 0.1 micron linear scales on both axis and a high-speed roll dress spindle, single point dressing also available. The CNC regulating wheel dresser allows for the dressing of complex shapes to achieve optimal diameter and roundness accuracy. 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.

### Controls and Custom Software

The control software is entirely developed at Glebar and is fully customizable to address your application and process. The intuitive touch screen interface allows for ease of use and flexibility. The machine software interface was developed to allow an unskilled operator to run many high precision machines simultaneously.

### 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.

### Automation and Glebar Advanced Analytics

As with other high performance Glebar machines, the GT-610 CNC can be fitted with robots, pick-and-place gantries, cleaning and drying stations, laser inspection systems and more to provide a truly hands-off turnkey solution for high production grinding applications that demand ultimate precision. Glebar Advanced Analytics interfacing to supervisory plant controls is also available to gather production data and track maintenance and critical operational statistics.

### Remote Connectivity and Available Metrology Device (P4K)

Remote connectivity is available via EtherCAT®, by and large the fastest industrial Ethernet technology. Glebar's P4K Gauging System 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).

**THE GLEBAR ADVANTAGE:** The GT-610 CNC outperforms larger competing machines which require a much larger footprint and grinding wheels so large and heavy, a crane is required to change them. It offers high horsepower, high rigidity and superior slide positioning. Through intelligent control and design, the G-ratios (part volume removed divided by wheel volume used) can exceed machines twice its size, all while maintaining better roundness, diameter, and taper tolerances.

# GT-610 CNC

## KEY FEATURES

- ✓ A proven technology for grinding multiple parts per cycle on a 10" or 12" diameter grinding wheel
- ✓ Twin Grip Spindle is our standard design
- ✓ Available ABEC 7 bearings and super high precision regulating wheel housing to maintain extremely tight tolerances
- ✓ Automatic CNC work wheel and regulating wheel dressing capability
- ✓ High-production, lights-out grinding capability
- ✓ Ease of changeover and setup for short production runs
- ✓ Remote Connectivity via EtherCAT®
- ✓ Super high rigidity roller guides with 0.1 micron scale feedback on the ram and ram bed & CNC work wheel dresser
- ✓ Patented controlled, motorized work rest blade slide adjusts (while grinding) lateral position of parts
- ✓ Quick Change Gripper assembly for rapid changeover from one set of part holding grippers to a different set (i.e. 8 station to 5 station) - the entire gripper assembly is easily disconnected, lifted out of the keyed mount, and then dropped into the next mount and reconnected
- ✓ Automatic wheel balancing and acoustic emissions system for ease of setup
- ✓ Auto dress feature to set redress after grinding a set number of parts
- ✓ Servo regulating wheel drive
- ✓ 15 HP in small form factor
- ✓ 10 to 15 minute wheel change
- ✓ Available with 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.
- ✓ Intuitive HMI touch screen operator interface
- ✓ Inline part diameter feedback to the control system allows the machine to correct the wheel dress profile for size variation by station
- ✓ Available setup reduction 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)
- ✓ Machine is fully serviceable in the field
- ✓ CE Certification is available
- ✓ Offline wheel dressing options to decrease downtime



\\ Movable Work Rest Blade



\\ Independent Slides



\\ CNC Wheel Dresser



\\ HMI Touch Screen Controls

## SPECIFICATIONS

Work Wheel Diameter: 10" (254 mm) or 12" (305mm)

Work Wheel Length: 8-5/8" (219mm)

Work Wheel RPM: 200 – 2500

Work Wheel Spindle Power: 15HP (11kW)

Regulating Wheel Diameter: 6" (152 mm)

Regulating Wheel Power: 2HP (1.5kW)

Regulating Wheel RPM: 10 - 200

Grinding Diameter: MAX 1-1/2" (38.1mm) - MIN 0.002" (0.05mm)

Machine Weight: 8100 lbs.

Roundness: better than 0.00004" (1.02 microns)

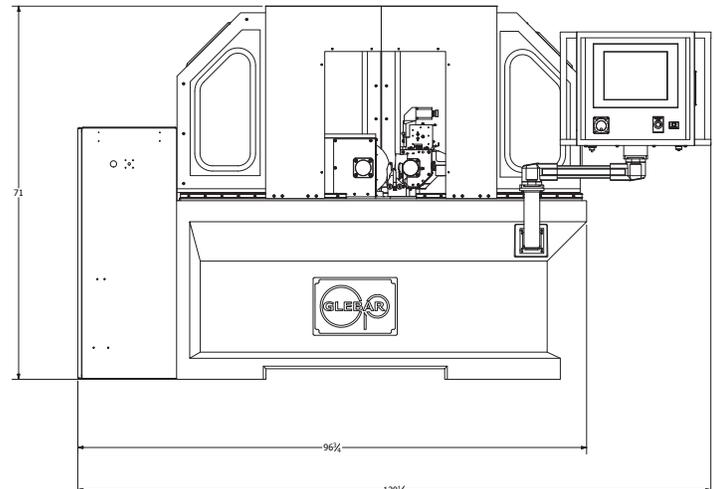
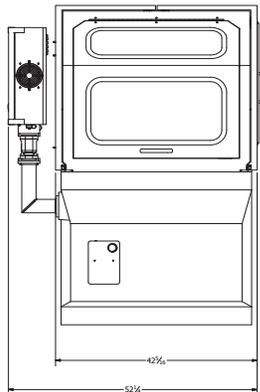
Diameter accuracy: better than 0.00005" (1.27 microns)

Upper Slide resolution: 0.1µm (0.000004")

Lower Slide resolution: 0.1µm (0.000004")

CNC Dresser X resolution: 0.1µm (0.000004")

CNC Dresser Y resolution: 0.1µm (0.000004")



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Glebar is an ISO 9001 certified company