

# Glebar Company

## Offline CNC Grinding Wheel Dresser Improves Grinder Efficiency

The DM-9CNC Wheel Dressing Machine allows a grinding wheel to be contour dressed offline using a fully programmable single diamond or rotary diamond roll. Having the ability to dress wheels offline allows the wheels to be ready for production, reducing setup time and improving machine efficiency.

### ***incumbent process***

- ❑ The wheel is dressed on the grinding machine during setup or using a manually held contour dresser.
- ❑ Contour dressers require a skilled operator who moves a stylus along a metal template of the ball form as a single point diamond removes material from the wheel.

### ***challenges***

- ❑ Dressing the wheel on the grinder reduces OEE and increases setup time, delaying production.
- ❑ Manual Template Tracing is operator dependent and inconsistent, which affects the quality of the grind, increases scrap rates, and requires more frequent dressing which shortens the life of the wheel.
- ❑ Deliver a process to dress the work wheel for a 1" diameter ball. The process has to improve OEE, reduce setup time, and improve consistency.



### ***solution – DM-9CNC Wheel Dressing Machine***

- ❑ The DM-9CNC is a standalone machine allowing operators to dress grinding wheels while the grinder is in production.
- ❑ Available for 9" and 10" grinding wheels, the machine CNC dresses precision contours in vitrified grinding wheels.
- ❑ The shape is transferred from a CAD drawing into G-code, which the DM-9CNC can read to shape the wheel.
- ❑ The dress roller is powered by a brushless servo motor. It offers high torque and closed-loop velocity control up to 10,000 RPM.

### ***benefits***

- ❑ Grinding wheels can be dressed offline, then stored for production, reducing setup time and increasing machine efficiency.
- ❑ Once set up, the DM-9CNC can run unmanned, shaping a wheel for a 1" ball in four hours. This allows the manufacturers to run their grinder while dressing a wheel at the same time.
- ❑ The Glebar Tooling Department uses the DM-9CNC to dress wheels for customers when purchasing a machine isn't practical.
- ❑ Wheel contour can be generated with CAD/CAM software packages or entered directly as linear and circular positions on the 15" touchscreen HMI.
- ❑ Servo-driven slides feature 0.000004" (0.1µm) glass scale feedback for accurate positioning generating a more consistent dress.
- ❑ Linear encoders are attached to the slide ensuring accurate positioning and that the resulting contours are always true to form.
- ❑ In addition to spheres, a multitude of shapes can be produced using this technique from fuse bodies, to ceramic injectors, to arthroscopic devices.