The Weldon MIDAS series of CNC cylindrical grinders are designed to satisfy high production applications either between centers or in a chucking mode. These machines also provide the flexibility to grind a wide variety of part configurations with minimal set-up. Rotary and linear axes are sealed from airborne contaminates providing unmatched longevity in carbide and ceramic grinding applications.

Available with either a straight or angular wheel head (factory set) the MIDAS machines can grind outside diameters, shoulders, and faces in a single set-up. The CNC control can address complex form grinding (tapers, radii, etc.) via form dressed wheels or profiling. Properly equipped, a MIDAS is ideally suited for high speed “Peel” grinding with CBN abrasives.

FEATURES

**Standard:**
- GE/Fanuc model 18i-TB CNC control with color LCD, and servo drives featuring GE Fanuc AC digital technology.
- Battery backup absolute feedback system eliminating the need to reference at each start-up.
- Shear Damper design machine base providing stiffness, vibration control, and thermal stability through the use of steel shear tubes covered with a viscous material and encapsulated with a special replicating resin.
- Cross-roller linear way system with recirculating bearings and precision ground rails.
- Includes integral way bearing seals and an external wiper system.
- Preloaded, precision ground, double-nutted ballscrew assembly for X and Z axes.
- Low inertia break-away coupling, X axis, for ballscrew protection.
- Heavy-duty live spindle workhead with 6” A2 spindle nose and #5 MT center.
- Features a 4.7” spindle diameter and a quad set of angular contact bearings.
- Automatic Trabon lubrication system, monitored by the control, with lube fault protection.
- Tailstock, lever operated, spring loaded, with #5 MT center.
- Includes manual taper adjustment with eccentric quill design.
- Variable speed wheel drive, CNC controlled with dynamic braking.
- Normally arranged for constant surface speed as the grinding wheel wears.
- Full enclosure with manual sliding door assembly and front and rear maintenance access window panels.

**Optional:**
- Programmable Workhead with Heidenhain rotary scale.
- In-process gage for automatic size control.
- Automatic lateral locator, wheelhead mounted, featuring a Renishaw probe.
- Acoustic emissions sensor for gap elimination, crash detection, and touch dressing.
- 22” swing capacity to accommodate larger diameter workparts.
- Electric rotary dressing systems for super abrasive dressing or extended diamond life when processing with standard abrasives.
- Work holding solutions can be addressed with a variety of systems such as manual and powered jaw chucks, collet chucks, magnetic faceplates, vacuum chucks, expanding arbors, pitch-line chucks, and custom fixtures.
- Automation involving gantry systems, Fanuc 6 axis robots, or custom alternatives can be factory integrated on a turnkey basis.
- Coolant supply and filtration systems are available to suit any application; magnetic, fabric, cyclonic, pressure, and combination filtration units can be provided.
- GE Fanuc X-axis linear motor for non-round applications.

APPLICATIONS

The Weldon MIDAS series of CNC cylindrical grinders are designed to satisfy high production applications either between centers or in a chucking mode. These machines also provide the flexibility to grind a wide variety of part configurations with minimal set-up. Rotary and linear axes are sealed from airborne contaminates providing unmatched longevity in carbide and ceramic grinding applications.

Angular wheelhead configuration available for formed wheel plunge grinding multiple diameter and shoulder grinding.

 Rotary diamond plunge dressers available for groove grinding applications.

Typical applications: bearing shafts, gear shafts, spindles, hydraulic spools, crankshafts, camshafts, wheel hubs and large bushings.

For more information, visit our website at www.weldon-solutions.com.
### MIDAS SPECIFICATIONS

#### CAPACITY
- **Maximum work swing**: 14”
- **Maximum distance between centers (120S, 120A, 124S, 124A)**: 12”
- **Maximum distance between centers (320S, 320A, 324S, 324A)**: 26”
- **Worktable travel (120S, 120A, 124S, 124A)**: 24”
- **Worktable travel (320S, 320A, 324S, 324A)**: 32”

#### WORKHEAD
- **Heavy-duty, preloaded precision antifriction bearings**
  - Spindle nose (ASME standard): 6” A2
  - Center taper: #5 Morse
- **Through-holes diameter in spindle for draw bar and knock-out**: 1 - 0.825”
- **Spindle speed range**: Infinitely variable and programmed by percentage with manual speed override located on operator control station
  - 0 - 900 RPM
- **Maximum runout**: 0.000050”
- **Maximum OD wheel diameter**: 24”
- **Maximum wheel width (124S, 124A, 324S, 324A)**: 5.0”
- **Maximum OD wheel diameter (120S, 120A, 320S, 320A)**: 20”
- **Maximum wheel width (124S, 124A, 324S, 324A)**: 4.0”
- **Maximum wheel width (120S, 120A, 320S, 320A)**: 5.0”
- **Note**: Actual speed and power rating calculated to suit specific application.
- **Center taper**: #5 Morse
- **Quill retraction (manual lever)**: 1.5”
- **Wheel spindle**: Permanent grease-packed
- **Workhead spindle**: Permanent grease-packed

#### ELECTRICAL SPECIFICATIONS
- **GE Fanuc AC digital servo systems**
  - 5.0 HP
  - 1.9 HP
  - 2.5 HP
  - 20 HP
  - 25 HP
  - 25 HP

#### PNEUMATICS
- **Air pressure**: 90 PSI
- **Air volume**: 5 SCFM

#### COOLANT SYSTEM
- **Electrical equipment wired in accordance with IEC electrical standards for metalworking machine tools**
- **Solenoids for coolant control from the machine control are provided.**
- **Automatic programmed cycle to lubricate machine when started up**
- **Safety detect interlock to prevent cycling of operation if low air pressure or low oil level is sensed**
- **Automatic lube oil tank system via a sheet metal trough. All necessary piping and solenoids for coolant control from the machine control are provided.**
- **Welded steel Shear Damper™ Foundation**
- **Three-point anti-vibration suspension system requiring no foundation attachment**

#### CNC CONTROL SPECIFICATIONS
- **GE Fanuc 18i-TB**
  - Manual point entry
  - Full linear and circular contouring and positioning capabilities
  - Direct rpm programming or constant surface feet per minute
  - 10” high-resolution color LCD
  - Macro subroutines
  - Automatic recognition of EIA or ISO coding
  - Absolute/Incremental programming
  - RS 232 interface

### OTHER GRINDER PRODUCTS

- Phoenix: Large Capacity CNC-ID
- Solaris: Large Capacity OD
- AGN4: Small Part OD
- UGC: Small Capacity ID
- 1632/1612 Gold: Ultrafine Versatility OD/ID
- P175: Small Part Non-Round OD

**Authorized Weldon Distributor**

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