1612/1632 GOLD
Ultimate Versatility OD>ID Grinder
APPLICATIONS

The Weldon 1612 GOLD and 1632 GOLD CNC cylindrical grinders are designed to satisfy a wide variety of medium-low production applications either between centers or in a chucking mode. Rotary and linear axes are sealed from airborne contaminants providing unmatched longevity in carbide and ceramic grinding applications.

When furnished with the optional swing-down ID grinding fixture, the GOLD machines can grind outside diameters, internal 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 1612/1632 GOLD is ideally suited for high speed “Peel” grinding with CBN abrasives. Additionally, a programmable “C” axis package can be provided to accommodate eccentric and non-round grinding applications (OD and ID).

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.
- 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.
- Preloaded, precision ground, double-nutted ballscrew assembly for X and Z axes.
- 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:
- 22” swing capacity for faceplates and fixturing to accommodate larger workparts.
- Programmable workhead with Heidenhain rotary scale.
- GE Fanuc X-axis linear motor for non-round applications.
- ID grinding fixture, (swing-down) hydraulically operated.
- GMN high frequency grinding spindles with threaded or HSK quill arrangements.
- Spindles sized to suit the application.
- In-process gage for automatic size control.
- Electric rotary dressing systems for super abrasive dressing or extended diamond life when processing with standard abrasives.
- Automatic lateral locator, wheelhead mounted, featuring a Renishaw probe.
- Acoustic emissions sensor for gap elimination, crash detection, and touch dressing.
- 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.

Weldon is known for its problem solving capability. Whether your grinding application is basic or difficult, our team of application engineers will work to develop a solution that will satisfy your needs.
# 1612/1632 Specifications

## CAPACITY
- Maximum work swing: 16"
- Maximum distance between centers (1612): 12" (1632): 24"
- Maximum distance between centers (1632): 26"
- Worktable travel (1612): 26" (1632): 32"

## WORKHEAD
- Heavy-duty, preloaded precision antifriction bearings
- Spindle nose (ASME standard): 6" A2 Center taper: #5 Morse
- Through-hole diameter in spindle for draw bars and knock-out: 1.0625"
- Spindle speed range is infinitely variable and programmed by percentage with manual speed override located on operator control station
- Maximum runout: 0.000050"
- Motor, GE Fanuc AC servo drive: 5.0 HP

## WHEELHEAD
- Angular contact ball bearings which allow lateral loading while contouring with wheel edge
- Motor: 5 hp, 1725 RPM
- Wheel speed variable RPM: 8,500 SFPM (nominal)
- Maximum OD wheel diameter: 16"
- Maximum wheel width: 3.0"

## TAILSTOCK
- Center taper: #5 Morse
- Quill retraction (manual lever): 1.5"

## TABLE DRIVES
- GE Fanuc AC digital servo drives: 1.9 HP
- Command resolution, least programmable increment: 0.000010"
- Position feedback resolution: 0.000010"
- Precision ground preloaded ballscrews on Z-axis
- Way construction: Hardened and ground cross rails
- Bearings, preloaded: Cross-roller

## LUBRICATION
- Wheel spindle: Permanent grease-packed
- Workhead spindle: Permanent grease-packed
- Ball screws and rollerscrew: Automatic lube oil

## ELECTRICAL SPECIFICATIONS
- GE Fanuc AC digital servo systems
- Full linear and circular contouring and positioning capabilities
- Direct rpm programming or constant surface feet per minute
- 10" high-resolution color LCD
- Macros subroutines
- Automatic recognition of EIA or ISO coding
- Absolute/incremental programming
- RS 232 interface

## COOLANT SYSTEM
- Machine is set up to funnel coolant out to an optional coolant filter or tank system via a sheet metal trough. All necessary piping and 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 programmed cycle to lubricate machine when started up

## MACHINE DIMENSIONS AND CONSTRUCTION
- Width, (1612): 103"
- Width, (1632): 131"
- Depth: 127"
- Depth for shipping, pendulum swung in: 93"
- Height: 85"
- Weight: 15,500 lbs.
- Construction: Welded steel Shear Damper™
- Foundation: 6" concrete floor is recommended
- Three-point anti-vibration suspension system requiring no floor attachment

## OTHER GRINDER PRODUCTS

- Phoenix: Large Capacity CNC ID
- Solaris: High Production OD
- MIDAS: Large Capacity OD
- AGN4: Small Part OD
- UGC: Small Capacity ID
- P175: Small Part Non-Round OD

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**Quality. Over and over again.**

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