

ALTAIRA

1 METER CAPACITY OD GRINDER



QUALITY.
Over and over again.

APPLICATIONS

The Weldon Altaira CNC cylindrical grinder is designed for processing large work parts up to 1 meter (40") in length. Rotary and linear axes are sealed from airborne contaminants providing unmatched longevity in carbide and ceramic grinding applications.

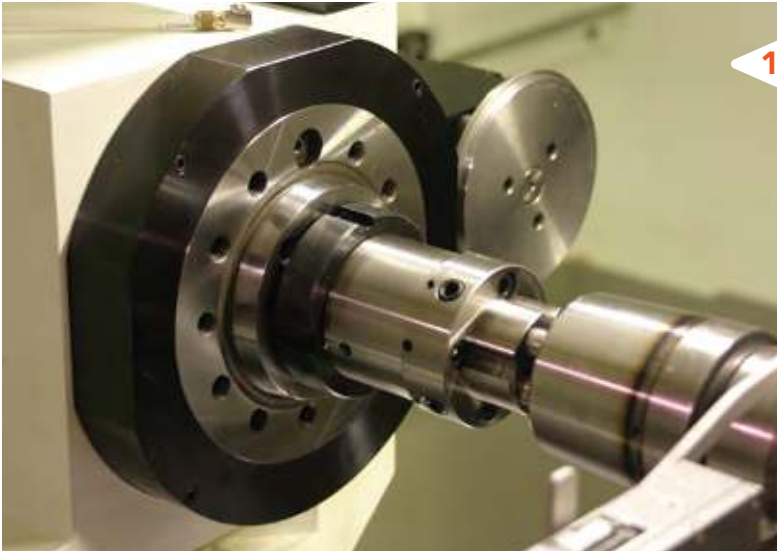
Available with either a straight or angular wheelhead (factory set) the Altaira can grind outside diameters, shoulders, and faces in a single set-up. The CNC control can address complex form grinding (tapers, radii, ect.) via form dressed wheels or profiling. Properly equipped, a Altaira is ideally suited for high speed "Peel" grinding with CBN abrasives. Additionally, a programmable "C" axis package can be provided to accommodate non-round grinding applications.

STANDARD FEATURES

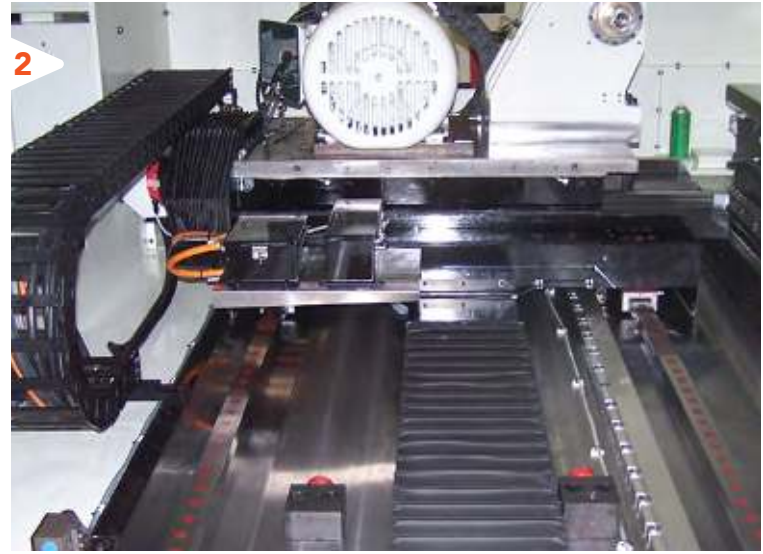
- **FANUC model 32i-BT CNC control** with color LCD, and servo drives featuring FANUC AC digital technology. Includes a battery backup absolute feedback system eliminating the need to reference at each start-up
- **Shear Damper** machine base providing stiffness, vibration control, and thermal stability 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.
- **Compound linear slide design** to keep floor space requirements to a minimum
- **Z-Axis linear motor.** X-axis precision ballscrew assembly or linear motor, determined by application.
- **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 lubrication system**, monitored by the control, with lube fault protection.
- **Heavy-duty tailstock, hydraulically operated**, with #5 MT center. Includes manual taper adjustments with eccentric quill design.
- **Variable speed wheel drive**, CNC controlled with dynamic braking. Normally arranged for constant surface speed as the grinding wheel wears.
- **Stainless steel telescoping** way covers.
- **Full enclosure** with manually operated dual sliding front door assembly, sliding side wheel access door assembly, and side and rear maintenance access panels.

OPTIONAL FEATURES

- **24" swing capacity** for faceplates and to accommodate larger workparts.
- **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
- **Programmable gear drive workhead** with rotary scale, 475 RPM max. For non-round applications.
- **Electric rotary dressing systems** for superabrasive wheels or extended diamond life when processing with standard abrasives.
- **Workholding 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.
- **Coolant supply and filtration systems** are available to suit any application; magnetic, fabric, cyclonic, pressure, and combination filtration units can be provided.
- **CBN abrasive packages** available for multi-plunge and peel grind processing. Packages include acoustic sensor, high pressure coolant and electric rotary dressing.
- **Automation via FANUC 6 Axis robots**, can be factory integrated on a turnkey basis.



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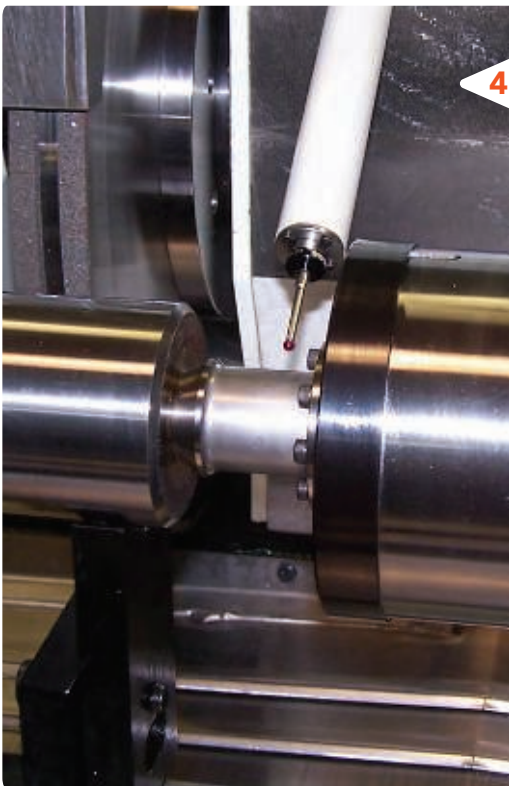
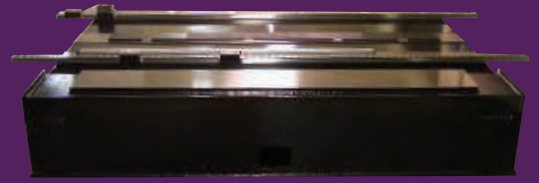


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QUALITY. OVER AND OVER AGAIN.

1. **Heavy-duty live spindle workhead** available with rotary glass scale feedback for non-round applications.
2. **Compound slide design** features Fanuc Z-axis linear motor with precision glass scale feedback.
3. **Shear Damper** machine base.
4. **5" stroke hydraulic tailstock** with live spindle option for friction drive and heavy work part set-ups.
5. **An optional robotic arm** can be used in tandem with the Altaira.
6. **CBN abrasive packages** available for multi-plunge and peel grind processing. Packages include acoustic sensor, high pressure coolant and electric rotary dressing.

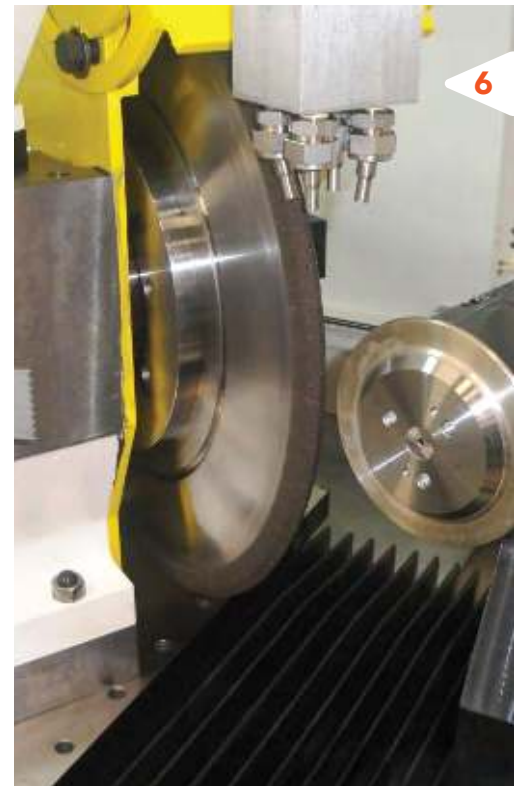
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ALTAIRA SPECIFICATIONS

CAPACITY

Maximum work swing	16"
Maximum distance between centers	40"
Maximum workpiece weight, between centers ...	600 lbs
Z-Axis travel.....	53"
X-Axis travel.....	13.5"

WORKHEAD

Bearings	Precision angular contact
Spindle nose (ASME standard)	6" A2
Center taper	#5 Morse
Through-hole diameter for draw bars and knock-out	1.0625"
Speed (Infinitely Variable).....	0-900 RPM
Maximum runout.....	0.000050"
Motor, FANUC AC servo drive	5.0 HP

WHEELHEAD

Motor	25 hp, T.E.F.C.
Wheel speed (variable)	8,500 SFPM (nominal)

Note: Angular contact ball bearings allow lateral loading while contouring with wheel edge

Note: Actual speed and power rating calculated to suit specific application

GRINDING WHEEL

Maximum OD Wheel diameter.....	20"
Maximum wheel width.....	4"
Wheel size throw away	12"

TAILSTOCK

Center Taper	#5 Morse
Quill retraction (hydraulic)	3.5"

TABLE DRIVES

FANUC AC digital servo drives	1.9 HP
Command resolution, least programmable increment000010"
Way construction	Hardened and ground cross rails
Bearings, preload.....	Cross-roller

Note: FANUC linear motor on Z-axis

ELECTRICAL SPECIFICATIONS

Complete electrical equipment wired in accordance with IEC electrical standards for metal working machine tools

Standard voltage

480 VAC, 3-phase, 60 Hertz

Note: Any other voltage must be referred to factory for price and delivery.

LUBRICATION

Wheel spindle	Permanent grease-packed
Workhead spindle	Permanent grease-packed
Ballscrews	Automatic lube oil
Ways.....	Automatic lube oil
Safety detect interlock to prevent cycling if low air pressure or low oil level is sensed	
Automatic programmed cycle to lubricate machine when started up	

PNEUMATICS (air moisture: 70° F. dew point maximum)

Air pressure.....	80 psi
Air volume.....	5 scfm

Note: System requires a filtered and dry air source.

COOLANT SYSTEM

Machine is set up to pump coolant out to an optional coolant filter or tank system from a sump tank. All necessary piping and solenoids for coolant control from the machine control are provided.

MACHINE DIMENSIONS AND CONSTRUCTION

Width	144"
Depth	130"
Height	94"
Centerline workpiece, height from floor	42"
Weight	22,000 lbs.
Construction	Welded steel sheer Damper™
Foundation	6" concrete floor is recommended
Multi-point anti-vibration suspension system requiring no floor attachment.	

CNC CONTROL SPECIFICATIONS - FANUC 32i-BT

- Manual pulse generator
- Full linear and circular contouring and positioning capabilities
- FANUC AC digital servo system
- Direct rpm programming or constant surface speed
- Built-in diagnostics
- 10.4" high-resolution color LCD
- Macro Subroutines
- Automatic recognition of EIA or ISO coding
- Absolute / incremental programming software over travel checking
- RS-232 / Ethernet / USB / Memory Card interface