

phoenix

LARGE CAPACITY CNC ID GRINDER



QUALITY.
Over and over again.

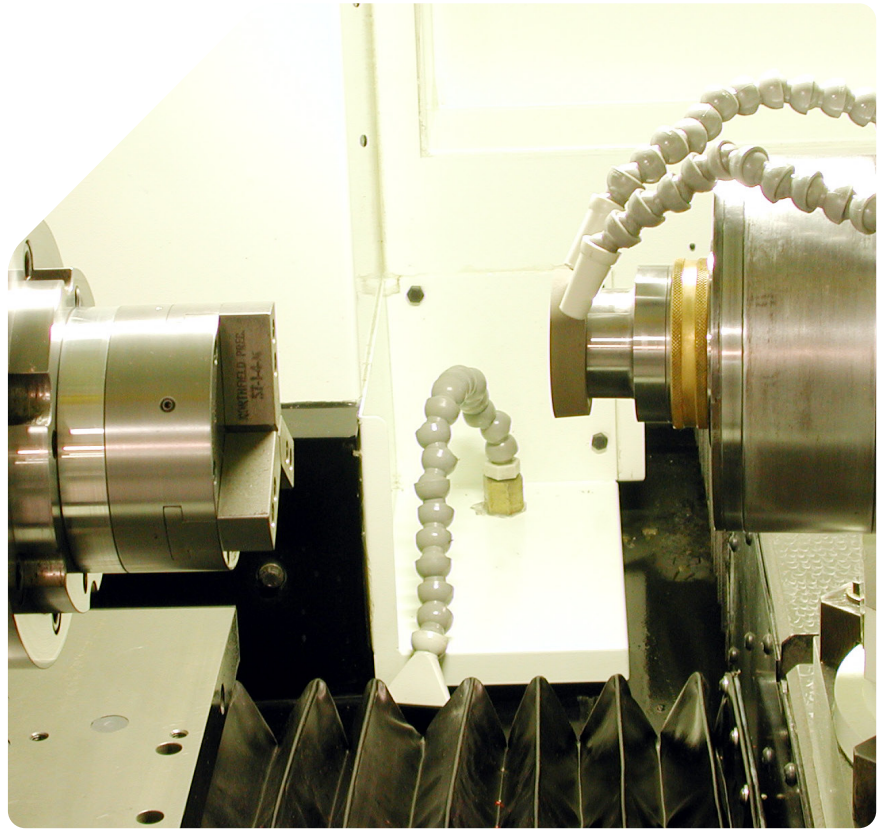
PHOENIX RISING

The Weldon Phoenix is a heavy-duty CNC grinder ideally suited for high-production, heavy part, carbide/ceramic, and flex-production applications. An optional programmable "C" axis package provides non-round (cam) grinding capability.

Designed for the use of Superabrasives, the Phoenix can accommodate both diamond and vitrified CBN grinding wheels. The Phoenix can also be arranged in a dual spindle configuration for multiple-feature grinding (bores, outside diameters, faces, etc.) in a single set-up.

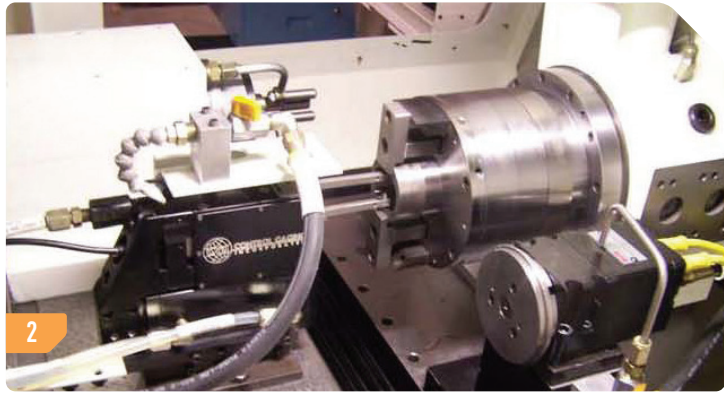
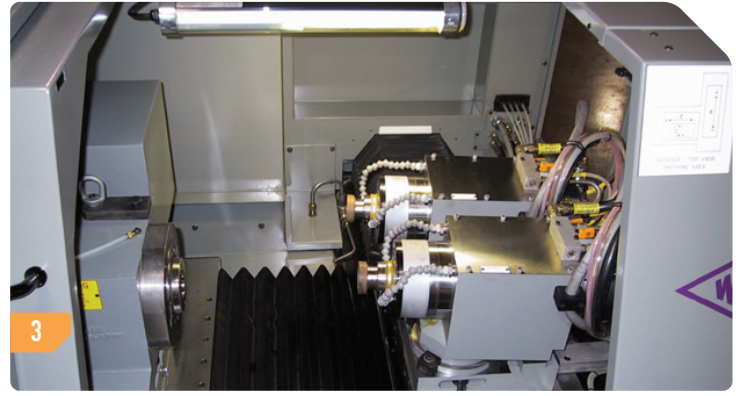
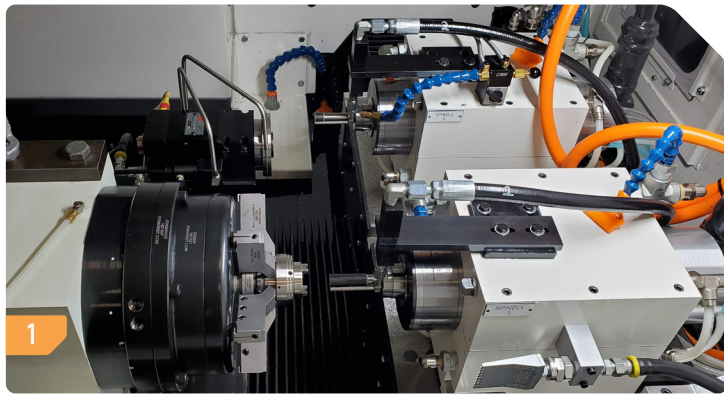
TYPICAL APPLICATIONS:

Transmission gears, pump cam rings, wear plates, large bushings, air-foil inserts, rotary valves, and bearings.

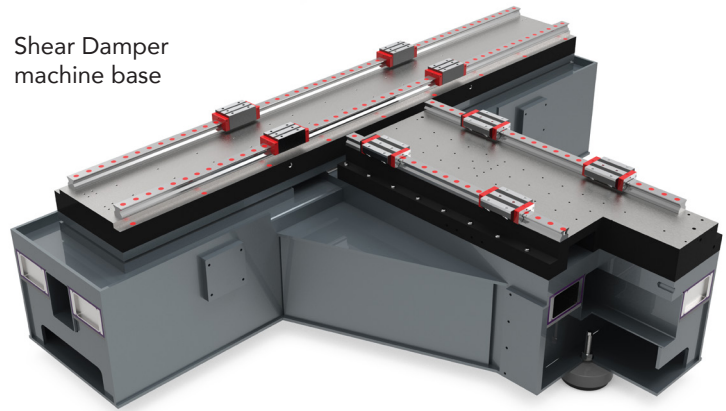


FEATURES: STANDARD

- 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.
- Low inertia break-away coupling on 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.
- 120 mm spindle housing and lubrication system.
- High frequency grinding spindles with threaded or HSK quill arrangements. Spindles sized to suit the application.
- Full enclosure with manual front sliding door assembly and side maintenance access window panels.



Shear Damper
machine base



FEATURES: OPTIONAL

- 22" swing capacity to accommodate larger workparts.
- Programmable gear drive workhead with rotary scale, 475 RPM max. For non-round cam applications.
- OD grinding spindle, straight or angular, with variable speed drive.
- Multiple grinding spindle configurations providing the opportunity for mounting (2) ID grinding spindles, or (1) ID spindle and (1) OD spindle to perform multiple grinds in a single set-up.
- X and Z axis linear motors for high-speed or non-round cam applications.
- Electric rotary dressing systems for superabrasive wheels or extended diamond life when grinding 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.
- Automation via FANUC 6-axis robots can be factory integrated on a turnkey basis.

1 Dual spindle ID grinding process using vitrified CBN abrasives for rough and finish grinding in a single set-up. System features a precision pneumatic chuck and electric rotary dresser.

2 Single spindle, CBN abrasive application for non-round ID grinding, with in-cycle post-process sizing gage. System features a high torque gear drive workhead, acoustic emission sensing, and electric rotary dresser.

3 Dual spindle, diamond abrasive application for ID, OD, facing, and non-round operations on a wide variety of ceramic components. System includes vacuum chuck and programmable workhead.



PHOENIX SPECIFICATIONS

CAPACITY

Maximum work swing	16"
Work Piece weight	200 lbs (Nominal)

WORKHEAD

Bearings	Precision angular contact
Spindle nose (ASME standard)	6" A2
Through-hole diameter for draw bars	1.062"
Spindle speed range infinitely variable...	0-900 RPM
Motor, FANUC AC Digital Servo	5.0 hp

WORKHEAD TABLE (Z axis)

Least programmable increment.....	.000010"
Maximum slide travel	15.25"

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

SPINDLE TABLE (X axis)

Spindle housing bore	120 mm
Least input increment000010"
Max. travel	23"

TABLE DRIVES

FANUC AC digital servo drives	1.9 HP
Least programmable increment.....	.000010"

LUBRICATION

Wheel spindle.....	Air / Oil (mist)
Workhead spindle	Permanent grease-packed
Ballscrews	Automatic lube oil
Ways	Automatic lube oil

Note: Safety detect interlock to prevent cycling if low air pressure or low oil level is sensed

ELECTRICAL SPECIFICATIONS

Wired in accordance with IEC standards, 480 VAC, 3-phase, 60 Hertz (AC)

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

MACHINE DIMENSIONS AND CONSTRUCTION

Width.....	95"
Depth	90"
Height.....	85"
Centerline workpiece, height from floor	42"
Weight	14,500 lbs.
Base construction.....	Welded steel shear Damper™
Way construction	Cross-roller linear way system with recirculating bearings and precision ground rails.
Foundation	6" concrete
floor is only requirement. Three-point anti-vibration suspension system requiring no floor attachment.	

CNC CONTROL SPECIFICATIONS - Fanuc 32i-BT

- Inch / metric programming
- 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
- Automatic recognition of EIA or ISO coding
- RS 232 / Ethernet / Memory card / USB interface
- .000010" Command resolution