

SOLARIS Large Capacity OD Grinder



weldon
SOLUTIONS

QUALITY. Over and over again.



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.
- 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.

APPLICATIONS

The Weldon Solaris CNC cylindrical grinder is designed for processing large, heavy work parts. 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 Solaris 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 Solaris 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.

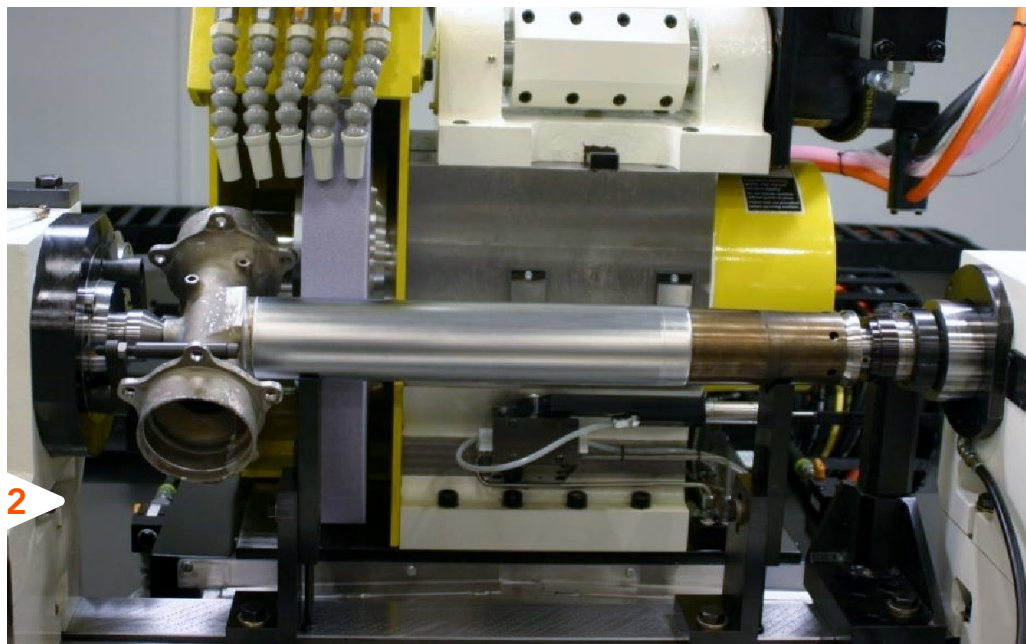
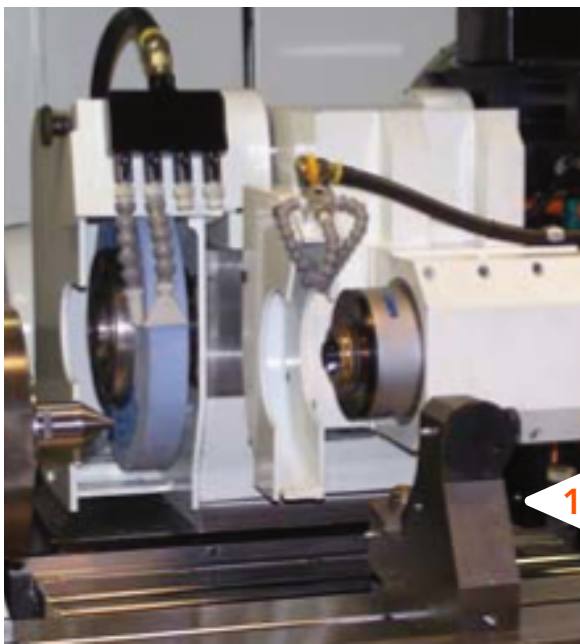
A sub-spindle option is also available to present a second OD wheel or an internal grinding wheel for sequential grinding of various part features.

Turret based wheelhead options are also available

OPTIONAL:

- 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 superabrasive packages available for multi-plunge and peel grind processing. Packages include acoustic sensor, high pressure coolant and electric rotary dressing.
- Sub-spindle fixture (swing-down) hydraulically operated, to accommodate a variety of secondary spindles (OD or ID).
- Automation via FANUC 6 Axis robots can be factory integrated on a turnkey basis.





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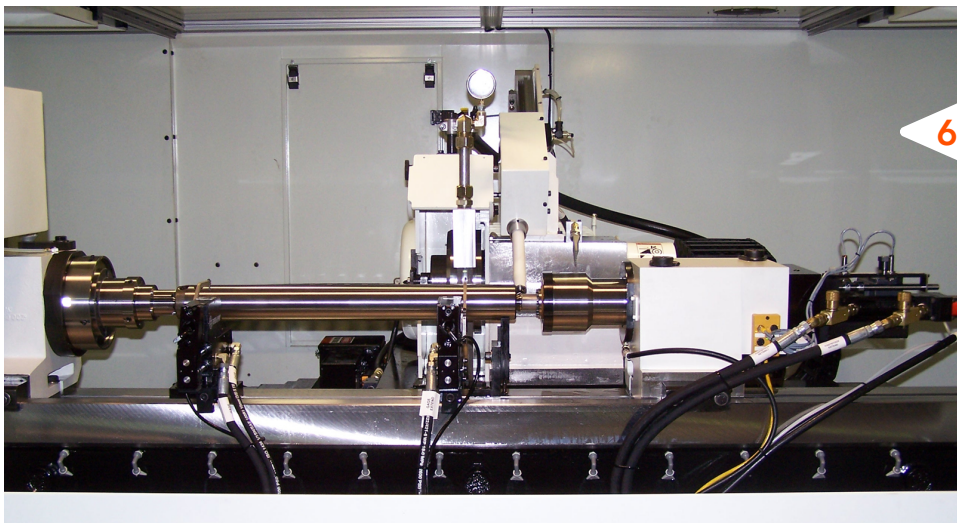
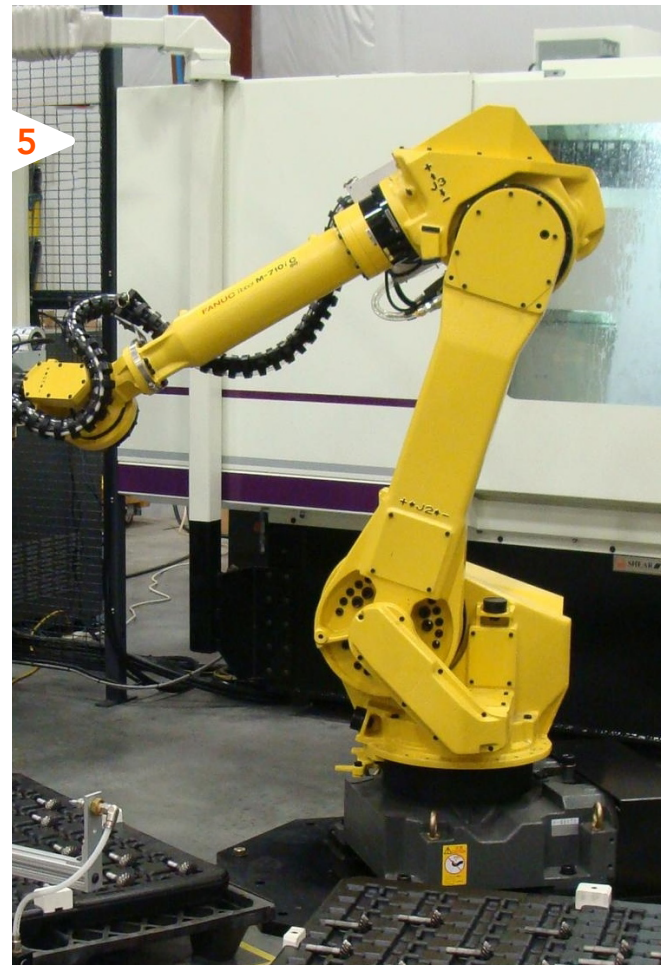
- 1) Hydraulic swing down fixture can be provided for secondary OD or ID grinding applications.
- 2) Between centers OD shaft grinding.
- 3) Shear Damper machine base.
- 4) Angular sub-spindle to grind under shroud.
- 5) An optional robotic arm can be used in tandem with the Solaris.
- 6) Automatic and manual workrest options available for longer work parts.



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SOLARIS Specifications

CAPACITY

Maximum work swing	16"
Maximum distance between centers	60"
Work Piece weight	1000 lbs. (nominal)
Z-axis travel	74"
X-axis travel	13.5"

WORKHEAD (Live Spindle)

Bearings	Precision angular contact
Spindle nose (ASME standard)	6" A2
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)
Travel of wheel slide	23"
Bearings	Ball, angular contact

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

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 increment	0.0001"
Way construction	Hardened and ground cross rails
Bearings, preload	Cross-roller

Note: FANUC linear motor on Z-axis

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	

ELECTRICAL SPECIFICATIONS

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

Standard voltage 480 VAC, 3-phase, 60 Hertz

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

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 151"

Depth 188"

Height 91"

Centerline work piece, height from floor 42"

Weight 28,000 lbs

Construction Welded steel shear 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

OTHER GRINDER PRODUCTS



1612/1632 GOLD
Ultimate Versatility
OD/ID Grinder



ALTAIRA
1 Meter Capacity
OD Grinder



MIDAS
High Production
OD Grinder



AGN4
Small Part
OD Grinder



PHOENIX
Large Capacity
CNC ID Grinder



UGC
Small Capacity
ID Grinder

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